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DEVELOPMENT OF INTERACTIVE VIDEODISC INSTRUCTION
FOR PROBLEM SOLVING AND ARMOR SKILLS

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20. ABSTRACT (Continue on reverse side if necessary and identify by block number) The Department of Defense has initiated programs to implement the recommend- ations of the Defense Science Board Summer Study (1982). These programs empha- size the application of advanced technology to training, and training technology transfer. Objectives of this project in support of the programs were to: (1) develop interactive videodisc instruction for Army enlisted personnel, to help them learn problem-solving strategies, <div style="text-align: right;">(over)</div>		

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(2) create a videotape to present information about the videodisc instruction that the Army Research Institute has sponsored,

(3) support training technology transfer at the Armor School and Center.

The products of this developmental project were two videodiscs which, together with their associated instructional software, were designed to train problem-solving strategies to Army enlisted personnel, materials for media comparisons of the contractor's videodisc instruction, a set of videotapes describing ARI videodisc instructional projects, and a needs analysis of diagnostic testing and remedial training for an enlisted personnel course.



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SUMMARY

REQUIREMENT AND OBJECTIVES

DoD has initiated programs to implement the recommendations of the Defense Science Board Summer Study (1982). These initiatives emphasize the application of advanced technology for training, collection and analysis of data on cost and effectiveness of training, and training technology transfer. Objectives of this project in support of the DoD initiatives were to: (1) develop interactive videodisc instruction for Army enlisted personnel to learn problem solving strategies, (2) create a videotape presenting information about the videodisc instruction that the US Army Research Institute (ARI) has sponsored, and (3) support training technology transfer at the Armor School and Center.

BACKGROUND AND APPROACH

HumRRO has been performing research and development in the area of instructional technology and cost and effectiveness of training for the Army, including the development and evaluation of 12 videodiscs for interactive instruction in learning strategies and basic skills for Army enlisted personnel. That work indicated the need for an integrated curriculum to teach learning strategies and problem solving skills to the enlisted personnel. Thus, the first task in this project was to develop interactive videodisc instruction to meet that need. To support further evaluation of the instruction, we prepared printed, off-line materials that teach the same skills, plus materials that teach skills on other HumRRO-produced videodisc instruction that has not previously been evaluated. The printed materials facilitate future media comparisons in evaluations planned by ARI. The third task prepared two videotapes, one a short summary and the other a thirty-minute presentation of the videodisc instruction that ARI has sponsored (conducted by HumRRO and other organizations). Finally, the last task surveyed the needs for prerequisite testing and remedial training in a course that the Army selected for a special training technology transfer application.

RESULTS AND CONCLUSIONS

The products of this developmental project were two videodiscs and the associated instructional software to train problem solving strategies to Army enlisted personnel, materials for media comparisons in evaluations of HumRRO videodisc instruction, a set of videotapes describing ARI videodisc instructional projects, and a needs analysis of diagnostic testing and remedial training for an enlisted personnel course.

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BACKGROUND

The Department of Defense (DoD) has implemented programs to enhance the transfer of instructional technology to improve military training. Army initiatives include research and development by HumRRO to evaluate techniques for interactive videodisc instruction in Army basic skills education, and a joint effort by ARI, the Army Training and Doctrine Command (TRADOC), and schools in TRADOC to establish field activities for technology transfer.

Since 1980, HumRRO has conducted research and development to produce and evaluate applications of an advanced multimedia, computer-based technology for basic skills education. A low-cost, microprocessor-controlled videodisc system is the core development and delivery system. This system was selected on the basis of a projective cost and training effectiveness analysis (Seidel and Wagner, 1983). Ramsberger, Hopwood, Hargan, and Underhill (1983) reported the principles and techniques applied in design and production of the instructional materials, including the videodiscs. Twelve videodiscs were produced that train a variety of study skills, test taking skills, spatial orientation and navigation, and other learning strategies. Laboratory and field experiments evaluated the effectiveness of the materials. In general, the spatial orientation and navigational skills training were effective regardless of the learning strategies trained (Ramsberger, Sticha, Knerr, Elder, Rosenblatt, Paris, Wagner, and Leopold, 1984).

LEARNING STRATEGIES CURRICULUM

A goal of the project was to develop interactive videodisc instruction on strategies to improve the soldier's learning and problem solving skills. Toward this goal, we organized the strategies related to learning and problem solving into an integrated curriculum for interactive videodisc instruction.

Under a previous contract (MDA-903-81-C-0083) a number of lessons on learning strategies and test taking skills were developed. These included the following:

- o Study Skills--Preparing for the written Skill Qualification Test (SQT)
- o Test Wiseness--Taking multiple choice tests
- o Relaxation and Positive Self-Talk--Coping with test anxiety
- o Grouping--Using partitioning to organize and learn information
- o Imagery--Applying mental imagery to learning tasks
- o Learning Strategies--Techniques for becoming an active learner

A review of these materials resulted in the decision to make the additions and alterations required to form a learning strategies package for the Basic Skills Education Program (BSEP). Given certain time and budgetary constraints, it was agreed that the following elements would be developed:

- o Addition of an overview to the package for informational and motivational purposes.
- o Reworking of the grouping and partitioning materials based on results achieved from evaluation research.
- o Addition of a module on problem solving to emphasize independent thinking skills.

The development of these units followed a general design and production procedure which is summarized below.

Design	Development of objectives Formulation of approach (treatments) Review of objectives and treatments by sponsor
Development	Drafting scripts Revision of scripts (resulting in shooting scripts) Review of scripts by sponsor Revision of scripts based on sponsor input

Production	Production of artwork, selection of shooting sites, etc. Filming Editing Sponsor review of edited materials Revision based on sponsor input Miscellaneous post-production activities (film to tape transfer, sound mix, etc) Mastering of Videodiscs
Programming	Programming of Videodiscs Sponsor review of computer software Revision of computer software

What follows is a more thorough explication of the design and development stages as they were carried out for the three units (overview, grouping, and problem solving) produced under this task.

Overview. The purpose of this unit was twofold: To provide the soldier with a rationale and framework for the instruction and to instill a motivational set conducive to a successful learning experience. Because of the "preview" nature of this piece there was an extensive use of footage from the other programs in the series. The central points covered include the following:

- o A soldier in today's Army must learn a good deal of information if he is to be successful.
- o People have trouble learning because they go about it in the wrong way.
- o These materials will show you the right way to learn.
- o Going through these materials will be a new and (hopefully) enjoyable experience.

This segment is noninteractive and has a play time of approximately three and one-half minutes.

Grouping. As part of earlier work in the area of spatial orientation and navigation skills, a lesson was developed on the use of partitioning as a learning strategy. Preliminary research results indicated that subjects felt the strategy was a useful one. The major problem with incorporating the unit into a general learning strategies package was the degree to which the strategy was taught using navigation facts and skills as the content matter. Therefore, the decision was made to refine the lesson employing a more general focus.

The format followed for the delivery of the instruction emphasized three elements of partitioning. Grouping organizes the information in ways which emphasize similarities between items classified together. Segmenting breaks up the steps in a procedure or set of instructions into smaller, more easily remembered pieces. Finally, sequencing orders the information in logical ways which, again, facilitates memory. This unit of instruction explains each of these three processes, gives examples, and includes exercises with content relevant to the military. The linear play time of this piece is about 10 minutes; with interaction a soldier takes 25 to 30 minutes to complete it.

Problem Solving. A survey of the learning strategies materials developed under the previous contract revealed a gap in the area of independent thinking skills. The strategies taught in previous materials focused on standard learning tasks such as using manuals, and attending lectures. Clearly an important skill for soldiers to develop is that of being able to think in a logical manner when confronted with situations for which there is no prescribed standard operating procedure. These situations can, in one sense, be seen as requiring problem solving or decision making abilities.

One of the difficulties encountered in developing materials on problem solving is the complexity of such skills and the limited videodisc space and training time available to teach them. Therefore, a primary goal was to make sure that the instructional objectives were realistic and achievable given the target population and the limited amount of training time.

A survey of the existing problem solving courses and research (see, for instance, Wickelgren, 1973; Rubenstein, 1975) uncovered three fundamental principles which were consistently emphasized as being central to the effective application of such skills. These principles were the core of the instructional materials. They are:

- o Attend to all information relevant to the situation at hand, while ignoring that which is irrelevant or less important.
- o Generate a variety of solutions to the problem; don't simply select the most obvious course of action.
- o Think through the solutions arrived at, attending to the positive and negative consequences of each.

For the soldier the application of these skills may be most vital in the battlefield environment, thus part of the instruction focused on tactical situations. At the same time, the importance of emphasizing the potential value of a more generalized application of these principles was

acknowledged. Therefore, the instruction took a two-pronged approach showing the characters as they develop their problem solving skills in both tactical and non-tactical environments.

The main body of the lesson is approximately 30 minutes long (linear play time), and is divided into three parts, each emphasizing one of the principles outlined above. Each segment has an interactive exercise. In the major exercise, incorporating all three of the principles, the student sees a character in a simulated battle where he faces a series of problems. Alternate solutions are presented to the student, who must evaluate them and select the one he/she believes is best. Feedback explains why the solution chosen is or is not the best choice. This feedback places strong emphasis on the principles presented during the instructional portion of the program. A scoring option employs both the number of incorrect responses and the speed with which decisions were made in deriving a final total. These exercises take from 20 to 30 minutes to complete.

DESIGN AND DEVELOPMENT ISSUES

During the course of the design and development of the problem solving lesson, a number of issues arose which are common to videodisc simulations of battlefield situations. Three of those issues will be addressed in this section.

Developing Scenarios. The development of the tactical scenarios presented one of the greatest challenges during the design phase. The situations must be realistic, with non-trivial and non-obvious solutions. At the same time, recommended solutions had to be acceptable militarily, conforming to any and all applicable Army doctrine.

The procedure for developing scenarios began with an individual with years of actual and simulated battlefield experience drawing storyboards based on "real life" experiences in the field. Production and design staff then reviewed the storyboards, and selected those incidents which could most easily be presented in a linear format and which could most feasibly be produced given time and budget constraints. Scripts were then written and reviewed by military subject matter experts provided by the sponsor. All issues raised during this review were resolved by revising the script or providing a more complete explanation of the material in question.

Despite this thorough review process, disagreements have still arisen during demonstrations of these exercises to military personnel. It seems clear that no matter what steps are taken to avoid controversy, there will most likely be some disagreement, no matter how minor, about the situations presented or the solutions recommended. By using a critical incident technique such as the one employed here, however, these disagreements can be held to a minimum.

Designing Interaction for Simulations. Another key issue during the design phase had to do with student inputs and feedback. The central questions concerned how to design the interaction in such a way that students could actually generate and enter solutions, and how to provide feedback which would show the consequences of actions taken. Because of the limited nature of the four-button input device, there was no way to have soldiers key in alternatives which were independently derived. As a result, a standard menu, listing alternatives to be selected from, was used. Future work could capitalize on speech recognition capabilities which exist with many newer computer systems, allowing the soldiers to generate their own solutions and enter them directly into the system. This capability will be a major step in the development of videodisc based simulations.

The problem with showing students the consequences of their choices is twofold: Achieving agreement on what would result from a given decision, and limitations on disc space which would quickly be used up if students were shown outcomes and/or were allowed to follow a "wrong" path for any appreciable length of time. Thus, this instruction does not actually show decision outcomes, but rather describes briefly the problems with a given solution, emphasizing the three principles which form the core of the lesson. Future work in this area might involve systems with multiple videodisc players, thereby increasing the amount of disc space that can be devoted to a single problem. "Wrong" paths could then be followed in ways judged to be most likely by subject matter experts.

Production. One of the chief concerns with any video production involving military situations and environments is with the visual accuracy of the events and people depicted. A single small mistake in costumes, terminology, etc., can damage the credibility of the entire program. This fact was critical in this lesson because of the complexity of representing a battlefield environment. Therefore, two steps were taken to eliminate any potential problems in this regard. First, the battlefield scenarios were depicted as envisioned by one of the characters in the program: the events and people are not represented as being real, they are pictured as our character imagines them. This use of fantasy avoided a number of issues which might have caused problems (e.g. identification of the enemy force).

The second safeguard used well trained soldiers both on camera as extras and off camera as advisors. When questions arose during filming concerning specific points of military doctrine, there were knowledgeable people at hand to answer them.

EVALUATION MATERIALS

The research plan developed for evaluating the Basic Skills Learning Strategies Package called for one experimental group (those subjects receiving the videodisc based training), and two controls. The first control group would receive no learning strategies instruction, while the second would go through off-line materials containing the same content as the videodisc lessons. The first task in carrying out the evaluation, therefore, was to develop these off-line materials.

The goal in developing the off-line materials was to have them follow the videodisc lessons as closely as possible. The objectives for each of the lessons were retained, along with the content matter and general structure of the exercises. The changes required by the shift of medium had to do with the manner in which the instruction itself was presented. The videodisc materials depended heavily on characters who, in interacting with one another, described and demonstrated the strategies of interest. The transfer to paper and pencil format necessitated adopting a more straightforward approach, with the soldier being "addressed" directly in the instruction.

The design and development of the off-line materials followed the general procedure outlined below:

- . review videodisc-based lessons
- . develop draft off-line versions
- . check draft readability levels
- . revise and/or develop glossary based on readability checks
- . review draft internally
- . revise based on internal review
- . develop art work
- . assemble final drafts
- . print final drafts

The materials are presented in the Appendix. Plans for actually carrying out the evaluation research are not definite at this time.

DEPARTMENT OF DEFENSE AND ARMY TRAINING TECHNOLOGY INITIATIVES

The Defense Science Board (DSB) Summer Study in 1982 examined training and training technology, including training capabilities and effectiveness in military training institutions and units. The DSB recommended more high-level perspective and proponentcy for training technology, collection and analysis of data on the cost and effectiveness of training, and more research on the development and application of technology.

The Army, represented by the Training and Doctrine Command (TRADOC), the Army Research Institute (ARI), and the Armor Center (USAARMC) jointly agreed in 1983 to form a Training Technology Field Activity (TTFA) at Fort Knox, Kentucky. This TTFA is tasked to improve the effectiveness and efficiency of training through the testing and application of training technology, with technology broadly defined to include techniques, strategies, methods, models, hardware, and software. The training selected for initial focus by the TTFA was the Basic Noncommissioned Officer's Course (BNCOC) for training M1 tank commanders (TC), who hold the military occupational speciality (MOS) 19K. Personnel from TRADOC, ARI, and USAARMC work as a team to apply and test available training technologies in this course. Technologies that are effective and efficient will be transferred to other Armor training programs as appropriate.

One of the primary technologies to be implemented by the Fort Knox TTFA is computer-based instruction (CBI), including both computer-assisted instruction (CAI) and computer-managed instruction (CMI). This technology will be applied in 19K BNCOC using microcomputers, interactive videodisc instruction and available automated training devices. Such technology was selected for implementation by the TTFA because it is currently available and it meets several of the needs of 19K BNCOC, including the need to provide repeated practice with realistic stimuli in a classroom setting and the need to reduce the administration and management duties of the limited instructional staff.

THE FORT KNOX TTFA AND 19K BNCOC

The BNCOC for the M1 tank commander at Fort Knox lasts over six weeks, during which the 19K students have administrative in-processing and diagnostic tests, remedial training if needed, training-to-train and NCO professionalism lessons, and common skills such as land navigation, communications, and maintenance. They learn skills unique to their MOS and vehicle, including gunnery (directing and conducting engagements, boresighting and zeroing, subcaliber and live fire gunnery) crew drills, and tactics. The final week is devoted to field exercises and administrative out-processing.

The TTFA hypothesized linkages between the 19K BNCOC course elements and potentially relevant technologies. The first elements in the course are administrative (in-processing and student profiles), and the proposed relevant technology is CMI. The second elements are diagnostic testing and the associated remedial training, for which TTFA cited CAI, hand-held

computers, computer speech technology, and videodisc systems. Other potential technologies are applicable for specific remedial skills (e.g., automated training devices for gunnery).

The 19K BNCOC Program of Instruction (POI) is group-paced since students must participate in field exercises and other events as a group. One aspect of the course, however, calls for individualized instruction. Performance of prerequisite tasks is diagnostically tested and remedially trained. It needs off-line instruction not part of the group-paced on-line POI. Prerequisite tasks and associated diagnostic tests are thus an early focus of the TTFA.

DIAGNOSTIC TESTING AND REMEDIAL TRAINING FOR 19K BNCOC

BNCOC tests entering students on a sample of prerequisite tasks. The plan during design of BNCOC was to test prospective students in home stations. The tasks, at skill levels one and two, are prerequisites to the NCO tasks in BNCOC and should be in the repertory of the BNCOC student. Those who failed tasks were to train to proficiency before entering the course.

In practice, the diagnostic tests are administered at the start of BNCOC, and students who fail must train outside of course time to acquire the skills (e.g., study hall). No time is allotted to train these skills during the course, so instructors must devote time and effort to their training (e.g., helping students obtain study materials and present off-duty instruction on tasks that have no self-study materials).

If a student performs unsatisfactorily on a diagnostic test, he is given remedial training on that topic during non-program hours and retested a maximum of two times. If a large number of students fail a particular diagnostic task, an instructor conducts a remedial class for those students as time allows, followed by retesting. Classes are held at the end of the diagnostic testing period. If only one or a few students fail a task, an instructor provides remedial training as time allows on an informal, individual basis, usually without using a formal lesson plan. Retesting in this case is accomplished immediately after remedial training, or later during range activities or field exercises. An obvious problem with this approach is that instructors have limited time to conduct remedial training and retesting, so they often have to accomplish these duties hurriedly and in addition to the regular program of instruction.

Selection of diagnostic tasks. A key issue in the area of diagnostic testing and remedial training is the selection of prerequisite tasks. The 13 tasks which are diagnostically tested in 19K BNCOC are listed below (with short titles).

1. Identify and explain the use of main gun ammunition (ID Ammo).
2. Maintain the M240 7.62 machinegun (M240).

3. Perform operator's maintenance and set headspace and timing on a cal .50 (Cal .05).
4. Remove/disassemble and reassemble/install the 105mm main gun breechblock (Breechblock).
5. Load/unload the main gun (Load/Unload).
6. Apply loader's misfire procedures to the 105mm main gun (Loader's Misfire).
7. Apply gunner's misfire procedures to the 105mm main gun (Gunner's Misfire).
8. Engage targets using precision fire (Precision Fire).
9. Engage targets using battlesight (Battlesight).
10. Adjust fire from a subsequent fire command (Subsequent Fire Command).
11. Prepare gunner's station for operation (Prep Gunner's Station).
12. Call for/adjust indirect fire (Indirect Fire).
13. Determine six digit grid coordinates (Six Digit Grid).

All of these tasks except "Prep Gunner's Station" are also diagnostically tested in 19E BNCOC, so the present discussion largely applies to that course also (10 additional tasks are diagnostically tested in 19E BNCOC; these are discussed below). A diagnostic test and remedial lesson plan exist for one other task, "Operate driver's station," but it is not presently being tested, because the test takes a long time and the task is not a problem for most students.

The basis on which the above tasks were selected for diagnostic testing in 19K BNCOC was the opinion of the primary training developer, with input from his co-workers and supervisor. Based on the view that current policy does not permit the training of SL 1 tasks in BNCOC, this individual placed SL 1 tasks on the diagnostic test to get them in the course. He selected tasks that, based on his experience, were likely to be failed by prospective tank commanders. He had unit command experience and made the best selection he could given the time available. This is a short-term solution to the task selection problem, but in the long-term a more comprehensive and objective approach is needed. Diagnostic test results are being reviewed as they become available, along with any other relevant data (such as SQT results), to determine tasks that should be added to or deleted from the diagnostic test. A thorough review of available task documentation should also be conducted to determine tasks that are prerequisite to the SL 3 tasks taught in 19K BNCOC.

Tasks which should be deleted from the diagnostic test are addressed below in the discussion of available tests results. Tasks which could be added to the test include the following ones suggested by instructors: "Perform before, during, and after operations checks and services" and "Operate driver's station." The latter task represents a contradiction since instructors see a need for testing it but aren't applying the test currently available (perhaps a shorter test is needed). Other candidates for diagnostic testing in 19K BNCOC are the additional tasks tested in 19E BNCOC which are relevant to the M1 tank. These are: "Check replenisher tape," "Adjust track tension," "Check engine oil," "Boresight coax machinegun," "Place turret into power operation," and "Adjust fire using standard adjustment procedures." A quick review of the 19K task list provides numerous other candidates for diagnostic testing, such as "Communicate using visual signaling techniques," "Recognize and react to chemical or biological hazards," "Identify minefield markers," "Recognize and identify friendly and threat armored vehicles," and "Boresight and system calibrate an M1 tank."

Diagnostic test results. One important criterion for determining the tasks which should be diagnostically tested in 19K BNCOC is the results of testing that has been conducted thus far. Such results are available for only two iterations of 19K BNCOC at this time, but similar results are available from 19E BNCOC. These results are displayed in Table 1 in terms of the "GO" percentages for each task.

One task which stands out in Table 1 as requiring remedial training is "Indirect Fire"; no one has ever passed the diagnostic test for this task. However, it is not clear that CAI should be developed for this task, since an automated device for training it is currently available at Fort Knox. This Training Set Fire Observation (TSFO) device consists of a large display screen and a bank of microcomputer-controlled slide projectors. These projectors display target arrays and requested firing patterns on the screen. This is a rather complex device for training the basics of "Indirect Fire" in 19K and 19E BNCOC; it requires a specially trained operator and is not transportable to the BNCOC training site. There is need to determine whether "Indirect Fire" training in 19K and 19E BNCOC should be conducted using the TSFO or using tailored CAI with available or newly developed videodiscs. Work is currently underway to acquire information needed for this determination.

Other tasks for which remedial training is frequently needed (based upon available test results in Table 1) and which should perhaps be given high priority in development of CAI include "Cal .50," "Six Digit Grid," "Subsequent Fire Command," and "Precision Fire." Tasks which are passed by over 90% of tested personnel and thus should probably not be given high priority for CAI include "Breechblock," "M240," "Load/Unload," and "Loader's Misfire."

Importance ranking of tasks. Another criterion for determining the tasks which should be diagnostically tested in 19K (and 19E) BNCOC is the opinions of personnel directly involved in the course. Three instructors

Table 1. BNCOC Diagnostic Test Results (% GO)

Task	19K % GO (n = 16)	19E % GO (n = 43)	Overall % GO (n = 57)
Call for/Adjust Indirect Fire	0	0	0
Perform Operator's Maintenance on Cal .50	31	65	56
Determine Six Digit Grid Coordinate	56	56	56
Adjust Fire from Subsequent Fire Command	69	77	75
Engage Targets Using Precision Fire	63	84	78
Engage Targets Using Battlesight	81	81	81
Apply Gunner's Misfire Procedures	69	88	83
Identify and Explain Use of Ammo	88	84	85
Prepare Gunner's Station for Operation	88	Not Tested	-
Remove and Install Breechblock	100	88	72
Maintain M240 Machinegun	100	91	93
Load/Unload Main Gun	94	98	97
Apply Loader's Misfire Procedures	100	95	97

(two 19K and one 19E) and the individual primarily responsible for development of BNCOC instruction were asked to rank order the 13 tasks being diagnostically tested in 19K BNCOC at present in terms of their importance for testing and remedial training. Raters were generally in high agreement, and the overall rank ordering from most to least important was as follows:

1. Precision Fire
2. Battlesight
3. Subsequent Fire Command
4. Six Digit Grid
5. Prep Gunner's Station
6. M240
7. Indirect Fire
8. Cal .50 Gunner's Misfire
9. Gunner's Misfire
10. Loader's Misfire
11. ID Ammo
12. Breechblock
13. Load/Unload

After giving their rankings, the four raters were asked to explain the criteria they used. All indicated that they ranked importance in terms of what is needed for survival on the battlefield. Thus, the three tasks ranked as most important are directly related to gunnery. No tasks were recommended for elimination from the diagnostic test, but the last three in the list above would be prime candidates for deletion. Tasks recommended for addition to the diagnostic test were addressed in the earlier discussion of task selection.

Compatibility of tasks with CAI. The final criterion against which the diagnostic tasks were evaluated is their compatibility with CAI. Some tasks can be readily adapted to CAI, while other tasks require "hands-on" experience on actual equipment for training or testing, and thus cannot be directly adapted to CAI. A conceptual analysis of the suitability of the 13 current diagnostic tasks for CAI grouped them into three categories.

The first category consists of tasks which do not require equipment for testing and training and should be readily adaptable to CAI. The tasks included here are "Six Digit Grid," "Indirect Fire," and "ID Ammo." As was discussed earlier, the development of CAI for "Indirect Fire" should await determination of whether the TSFO is appropriate for usage in 19K (and 19E) BNCOC. Development of CAI for the other two tasks could begin as soon as resources are available.

The second category consists of tasks which are presently tested and trained using a weapon or a tank, and cannot be performed on an Institutional Conduct-of-Fire-Trainer (ICOFT) or other automated device. Before developing CAI for these tasks, it will be necessary to determine whether valid training and testing can be done through a medium other than "hands-on" experience. Previous research by Bessemer and Kraemer (1979) and Hiller (1980) should be reviewed in determining strategies for simulated performance testing. Tasks which fall in Category B are "M240," "Cal .50," "Loader's Misfire," "Breechblock," and "Load/Unload."

The last category has tasks which are presently tested and trained on a tank and can be performed in the future on an ICOFT. Development of CAI for these tasks should be integrated with ICOFT to avoid duplication. Since an ICOFT will not be available for use in 19K (and 19E) BNCOC until 1986, it may also be necessary to determine whether CAI should be developed for application in the interim. Tasks which fall in this category are "Precision Fire," "Battlesight," "Subsequent Fire Command," "Prep Gunner's Station," and "Gunner's Misfire."

Conclusions and recommendations. Integration of the information presented and the issues raised in the preceding pages lead to the following conclusions and recommendations.

1. The purpose of diagnostic testing in 19K (and 19E) BNCOC needs to be redefined. As CBI is applied in BNCOC, diagnostic testing results should be used to tailor instruction to individual student's needs. A criterion should be established for entry into BNCOC. Incoming students who do not meet this criterion (i.e., pass a specified percentage of diagnostic test items) should not be allowed to enter the course. This policy should be communicated to units with command emphasis from the highest level of the armor community.

2. The selection of diagnostic tasks for 19K (and 19E) should be addressed more comprehensively than it has been thus far. This analysis should be based on review of diagnostic test results and other relevant data as they become available, opinions of subject-matter experts, and thorough review of available task documentation.

3. With respect to the tasks diagnostically tested in 19K BNCOC at present, "Six Digit Grid" and "ID Ammo" should be given highest priority for development of CAI, since they are immediately adaptable to this medium. CAI should next be developed for "Indirect Fire," if it is found that the TSFO cannot be used in BNCOC. For the second Category of tasks, approaches for simulated training and testing should be examined. If appropriate approaches can be found, CAI should be developed in the following order: "Cal .50," "M240," "Loader's Misfire," "Breechblock," and "Load/Unload." Development of CAI for Category C tasks should await determination of availability of an ICOFT for 19K BNCOC.

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APPENDIX

EVALUATION MATERIALS

ANNEX

CONTENTS

A	Learning Strategies Handbook
B	Problem Solving Handbook
C	Study Skills Handbook
D	Imagery Handbook
E	Grouping Handbook
F	Relaxation Handbook
G	Relaxation Home Practice
H	Positive Self-Talk
I	Test Wiseness - Tips for Taking Multiple Choice Tests

A
LEARNING STRATEGIES
HANDBOOK

LEARNING STRATEGIES HANDBOOK

GOALS

In this handbook, here's what you'll be doing:

- (1) you'll be able to identify the information you need to know;
- (2) you'll be able to identify different types of learning strategies;
- (3) you'll be able to select and know how to use an appropriate learning strategy;
- (4) you'll be able to recall the information.

MATERIALS

These are the things you'll need to complete this lesson:

- (1) Learning Strategies Handbook
- (2) paper
- (3) pencil

**LEARNING STRATEGIES
GLOSSARY**

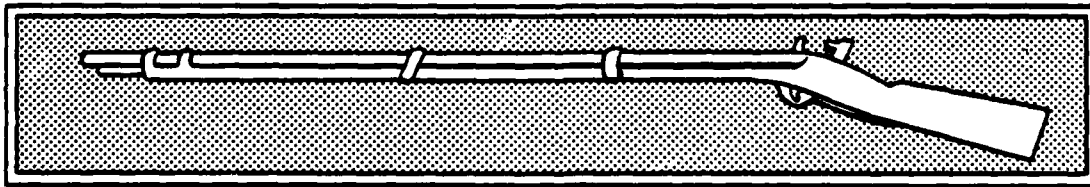
categories	groups that have things in them that are alike in some way
challenging	something that requires much study and effort
columns	lists of items that are written down a page
flustered	to become confused
fragile	easily broken
interpretation	the way you explain the meaning of something
manikin	a model that looks like a person; a dummy
minimum	the smallest amount of something that's still acceptable for use
organize	to put things into a planned set-up
phase	one part of a larger plan
prerequisites	things in a job that must be done before you can do the rest of the job
proficiency	being able to do something with great skill
rows	lists of items that are written left to right
self-confidence	feeling sure about yourself
strategy	a plan for getting something done
technique	the way you choose to get something done or to reach a goal

LEARNING STRATEGIES

PASSING THE PREREQUISITE TASKS

"The answer's on the tip of my tongue!" Have you ever heard yourself saying that? Did you get tense and flustered, and maybe then you just gave up? Perhaps you even tried to blame someone or something else? Well, here's good news - it's easier to remember material when you've actually done something to organize that information. The responsibility for becoming an active learner rests on your shoulders. Certainly this takes time and effort, but it's worth it. The more you know about how to help yourself learn, the better you can do in the many situations which will come up in your life when you have to know some new information or pass a test.

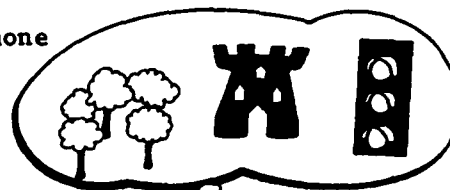
And, there's a lot you must learn to be a good soldier. For example, the soldier who wears the Expert Infantryman Badge - the EIB - shows the world that he has put forth the effort required to receive this honor. He has demonstrated that he is able, is motivated, and can perform as an infantryman with a high degree of skill. He has an advantage in attaining promotion, assignments, and special schools. Most of all, he has self-confidence and the respect of his fellow soldiers.



Going for the EIB isn't easy. You must pass the Army Physical Readiness Test (APRT), qualify as an expert on your M16 rifle, pass a land navigation test, and march 12 miles in full field gear in less than three hours. You must also score a GO on all tasks in the hands-on component of your SQT. Finally, you must successfully perform all of the challenging EIB roundout tasks.

This handbook is designed to teach you ways to apply learning strategies. A learning strategy is just a way of taking the things you have to learn and putting them into some form that makes them easier for you to remember. You probably already use learning strategies everyday for things you want to remember. When you run to the grocery store for a few things, you may write a note, or you may figure out a way of recalling those items from your memory. You might have "tricks" for remembering telephone numbers, people's names, and directions for getting to places.

Well, learning information from books and manuals is almost the same. You can think of learning strategies as the "tricks" you use to remember things, like the steps of your job or performance measures.



► Every person can improve his or her ability to learn. The key to learning anything is really pretty simple; you've just got to do something with it.

When you sit down to study, what do you usually do?
A lot of people just read over what they need to know. Their minds start to wander, and they begin to think about other things.



Have you ever known a sports nut - someone who can reel-off all kinds of information about football, baseball, etc.? How do you suppose they learned all that? Maybe they played trivia games with their friends, trying to stump each

other by going through books finding either questions to ask or answers to questions they might be asked.

That's exactly what is meant by being an active learner. Instead of just staring at a book, you take the information and do something with it - make up quizzes for your friends and try to guess what questions you'll be asked. That's what being an active learner is all about!

But, that strategy is just one possibility.

You can make tables or charts of things you read, make diagrams or draw pictures, anything to make you think about what you've just read.

This may sound like a lot of work, but you'll really learn, and you'll probably learn faster.

Good luck on your trip toward becoming an active learner!

TRIVIA QUIZ

1. Penny Singleton and Arthur Lake played together in a series of movies from 1938 to 1950. What was the series?
2. "It's a common word, something you see every day" was a comment heard regularly on what radio-TV show?
3. A big hit recording by Joey Dee and his Starliners mentioned in the title the name of the nightclub in New York where the group performed. Name either the club or the recording.
4. A Washington Senators' player led the American League in batting in 1946 and again in 1953. Who was he and what did he bat (percentage) in either of those two years, within 10 points?
5. In the early 1800s, what area in New York (now a borough) was called the "city of homes" and churches?



MAKING CHARTS

When you cross the finish line from your 12-mile march, you must immediately take the weapons proficiency test! Figure that sometime you're also going to have to pass all events of the APRT. It doesn't take long to realize that you need to get in shape.

For the APRT you have to do sit-ups, push-ups, and a two-mile run. You've got to score a minimum of 60 points on each event and have a total score of at least 225 points.

Here's part of the APRT chart.

You can find your age group across the top. The first column shows the number of repetitions, and the next four columns are the age groups and the number of points you get, first for males, then females. So, if you're a male between the ages of 17 and 25, and you do 60 repetitions, you'll get 84 points. You can see that to score 60 points, the minimum number you'd have to

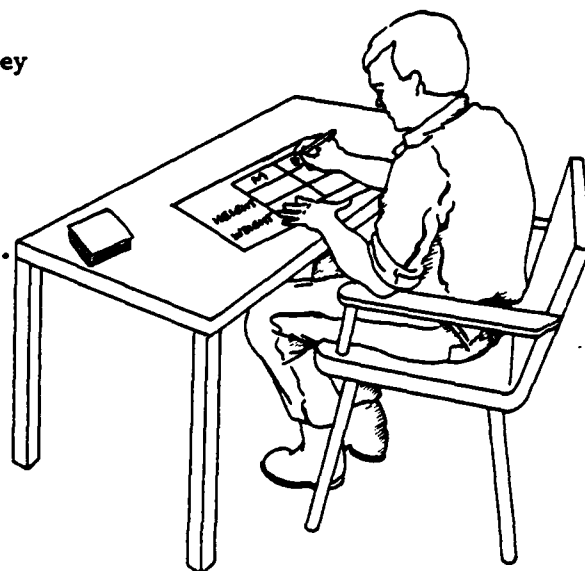
PUSHUPS					SITUPS				
REPS	17-25	26-30	31-35	36-39	REPS	17-25	26-30	31-35	36-39
68	100				69	100			
67	98				68	98			
66	96	100			67	96	100		
65	94	98			66	94	98		
64	92	96			65	92	96	100	
63	90	94			64	90	94	98	
62	88	92			63	88	92	96	100
61	86	90	100		62	86	90	94	98
60	84	88	98	100	61	84	88	92	96
59	82	86	96	98	60	82	86	90	94
58	80	84	94	96	59	80	84	88	92
57	78	82	92	94	58	78	82	86	90
56	76	80	90	92	57	76	80	84	88
55	75	78	88	90	56	75	78	82	86
54	74	76	86	88	55	74	77	80	84
53	73	75	84	86	54	73	76	78	82
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49	69	71	76	78	50	69	72	74	76
48	68	70	75	76	49	68	71	73	75
47	67	69	74	75	48	67	70	72	74
46	66	68	73	74	47	66	69	71	73
45	65	67	72	73	46	65	68	70	72
44	64	66	71	72	45	64	67	69	71
43	63	65	70	71	44	63	66	68	70
42	62	64	69	70	43	62	65	67	69
41	61	63	68	69	42	61	64	66	68
40	60	62	67	68	41	60	63	65	67
39	59	61	66	67	40	59	62	64	66
38	58	60	65	66	39	58	61	63	65
37	57	59	64	65	38	57	60	62	64
36	56	58	63	64	37	56	59	61	63
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32	52	54	59	60	33	52	55	57	59
31	51	53	58	59	32	51	54	56	58
30	50	52	57	58	31	50	53	55	57
29	49	51	56	57	30	49	52	54	56
28	47	50	55	56	29	47	50	52	54
27	45	49	54	55	28	45	48	50	52
26	44	47	53	54	27	44	47	49	51
25	42	45	52	53	26	42	45	47	49
24	40	43	51	52	25	40	43	45	47
23	39	42	50	51	24	39	42	44	46
22	37	40	48	49	23	37	40	42	44
21	35	38	46	47	22	35	38	40	42
20	34	36	44	45	21	34	37	39	41
19	32	34	42	43	20	32	35	37	39

do is 40 push-ups. If you're over age 36, you'd have to do at least 32 push-ups to score 60 points. The APRT takes into account the differences between old and young muscles!

Here's a chance for you to learn something about another difference in physical abilities. First, read the following paragraph.

 Size. The average 18-year old male is 70 inches tall and weighs 145 pounds. The average female of the same age is 64 inches tall and weighs 127 pounds. The male's greater height gives him greater lung volume, speed, and power. Since he is 20 to 25 percent heavier, the male has more explosive and throw power.

OK, now let's break down the differences between females and males so you can quickly see what they are. Making a chart is a good way to get this information into a form that you can quickly remember. Ask yourself what your categories are. In this case they're "males" and "females"- which has been written at the top of the chart. Now you want to put in what you're comparing between males and females. It's height and weight, which is written on the left side.



➡ The headings for the columns and rows could have been reversed.

It doesn't matter as long as it's easy for you to understand.

Now, you fill in the empty blocks using the numbers given to the right.
 (Go back to the paragraph if you need help.)

64
18
145
25
70
20
127

	MALES	FEMALES
Weight		
Height		

➡ If you make charts to help you remember, it's very important that you put in the correct information!

The completed chart is on the next page. Check your answers.

You might have this information memorized now, even though you didn't even try.

➡ When you make a chart you're an active learner. You're thinking about the information you're putting in. And when you're finished, it makes it much easier to compare the information.

	MALES	FEMALES
Weight	145	127
Height	70	64

Why don't you try to make a chart for getting into shape. Read the following three paragraphs.

The purpose of the preparatory phase is to develop the heart, lungs, and the muscles of the legs so that they are accustomed to exercise. To achieve this, begin by walking for 14 to 20 minutes, three times per week. Walk at a comfortable pace, but do not overdo it. Continue at this level until there is no undue fatigue or muscle soreness the day after exercise. Once this point has been reached, increase the time to 20 to 25 minutes and walk at a faster pace. When a brisk walk for 20 to 25 minutes can be successfully handled, begin by alternating walking with slow running for 20 to 25 minutes. Continue to alternate until slow running can be maintained for 10 minutes. When this can be done, the preparatory phase is completed.

The purpose of the conditioning phase is to begin the expansion of the physical capacity of the heart and lungs. This is done by increasing the amount of time spent running. Starting with the 10 minutes' running time that was achieved during the preparatory phase, gradually increase running time by 1 or 2 minutes each workout until running is continuous for 20 to 25 minutes. This should be done at least three times per week.

Once the preparatory and conditioning phases have been completed, it is desirable to keep physical readiness at the level achieved in those phases. This is the purpose of the maintenance program. Most exercise experts agree that a workout of 20 to 25 minutes, three times per week, will maintain good physical readiness.

Here is an empty chart and the phases.

Fill in the two column headings and the

Preparatory phase labels. (You might

want to read through the paragraph about

getting into shape again.) Remember,

you have to decide what your categories

are and then what you want to compare.

PHASES
PREPARATORY

CONDITIONING

MAINTENANCE

Go ahead and look at the next page to compare your chart to the suggested answer.

You probably know what the next step is - fill in the rest of your chart with the proper information from the paragraphs. Read through them again if you want.

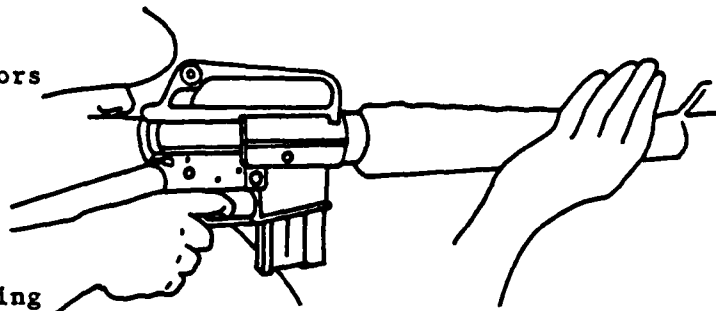
Look at the next page to compare your answers.

DRAWING PICTURES

Another thing you have to be able to do is shoot Expert - and that's tough!

Remembering the eight steady hold factors you learned in Basic can be helpful in bringing the jitters under control.

A good learning strategy might be drawing pictures. Some people can remember things better when they have a picture to keep in their minds.



b. Steady Hold Factors. As the name implies, steady hold is the technique of holding the rifle as steady as possible while aligning the sights and firing the weapon. There are eight factors which affect holding a rifle steady. These factors are the same for all firing positions; however, the precise manner in which they are applied differs slightly with the various positions. This discussion of the steady hold factors will apply to the semiautomatic firing positions.

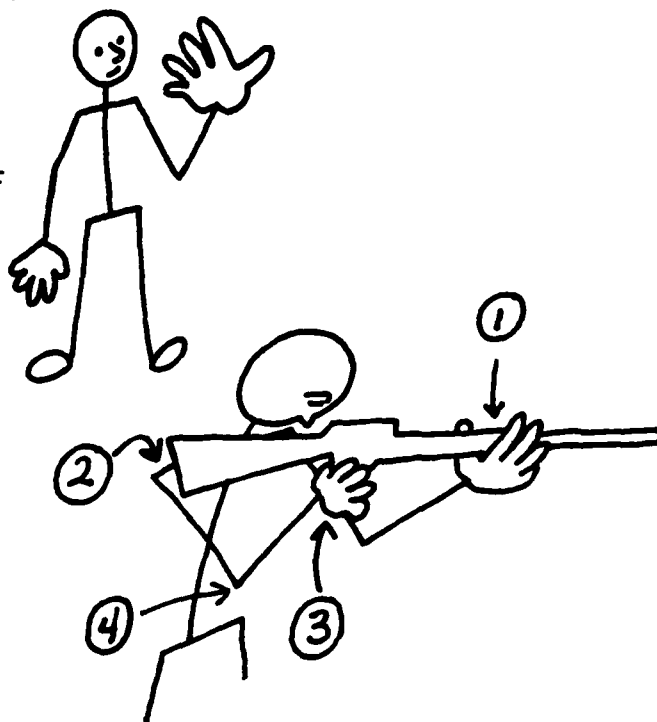
And it doesn't matter if you can't draw very well. With this, all you have to do is draw stick figures, exaggerate the important parts, then write the number of the steady hold factor next to that part.

➡ When you're making the drawing you're being an active learner.

You're working hard to remember all those important parts. And that means they'll stick with you longer.

STEADY HOLD FACTORS

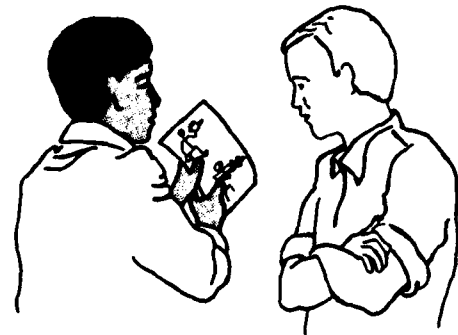
- (1) Grip of the left hand forms "V"
- (2) Rifle butt in pocket of right shoulder
- (3) Right hand grasps pistol grip
- (4) Right elbow provides balance
- (5) Stock weld helps with accuracy
- (6) Breathing affects accuracy
- (7) Relaxation reduces trembling
- (8) Trigger control prevents movement



When you're trying to remember the eight steady hold factors, try your hand at drawing stick figures. Exaggerate the important parts, and then write the number of the steady hold factor next to that part.

➡ A good strategy for finding out how well you've learned something is by trying to explain it to a buddy. If you can't explain it to somebody else, chances are you don't know it as well as you think you do.

Your buddy will probably be interested in how your drawing has helped you remember the eight steady hold factors. Share your technique, but be sure to point out that just looking at someone else's drawing won't do the trick. It's working so hard to make the drawing that really lets you see it in your head when you get down into position to fire.



Why don't you try out your "artistic" learning skills. Here's a list of the physical symptoms of heat cramps. Draw a simple picture that would help you picture in your mind what these signs of heat cramp are.

CRAMPS IN ONE OR MORE
OF THESE AREAS:

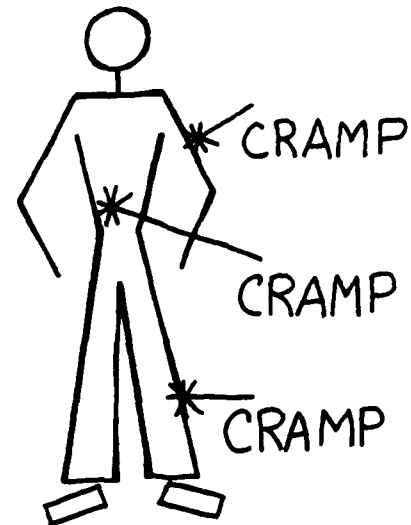
- (1) legs
- (2) arms
- (3) stomach

Draw your picture here.

Look at the next page for a suggested drawing.

You might have drawn other things to help you remember. Look at the drawing now, then close your eyes and picture it. Go ahead; give it a try.

If it was easy for you to see in your mind, it's probably a pretty good drawing.



Now here are four steps to treat serious heat stroke. This will be a little more challenging.

c. Treat heat stroke.

- (1) Move him to a shady area.
- (2) Put him in cool water or pour cool water on him.
- (3) Loosen his tight clothing.
- (4) Get medical help.

Caution: Treat him and get medical help at the same time if you can.

REFERENCES

TB Med 507

**FOR PROPER HEAT STROKE TREATMENT,
THE VICTIM SHOULD:**

- (1) be moved to a shady area,
- (2) be covered with or placed in cool water,
- (3) have clothing loosened,
- (4) receive medical help.

Draw a picture here that will help you remember all four steps. It may take some time, but stay with it.

Now take a few seconds and look at your drawing, then turn the page.

Test yourself to see if your picture worked for you. Without looking back at your picture, write down the four steps necessary to treat a serious heat stroke victim. Try picturing your drawing in your mind to help you.

FOR PROPER HEAT STROKE TREATMENT,
THE VICTIM SHOULD:

- (1) _____
- (2) _____
- (3) _____
- (4) _____

Did your image of the drawing help you? Turn back a page and check your answers.

You probably did just fine, but if you had trouble, don't get down on yourself. It takes some practice. Besides, there are other ways to remember things that may be more effective for you.

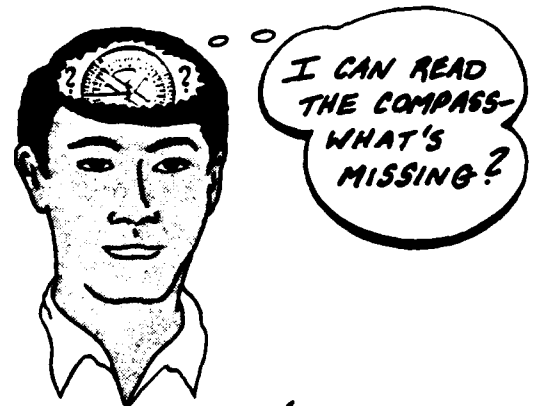
ACTIVE LISTENING

Most of the time when we think of learning something, we think of reading or taking notes in a classroom. You might not realize that a lot of learning takes place in glorified bull sessions. You know, the Sergeant gets some guys together who need a little help on an EIB test or something.

Now, you're supposed to be quiet when someone's talking, but that doesn't mean you can't be an active learner with a listening strategy. You can be talking to yourself - asking questions about what you're hearing and repeating the main ideas.

Really talk to yourself, and repeat what you think are the main ideas. That's how to be an active learner when you're listening. And ask yourself questions, too.

Chances are that your question will soon be answered. If not, you can ask the speaker. The important thing is that you're actively thinking about what's being said.



If you do miss something - or just don't understand - ask. It's best to get it straight from the start instead of waiting until later to find out you don't know what's going on.

Keep at it - repeat the main ideas - even out loud if you can. And keep asking questions.

Give the listening strategy a try next time you and some friends get together to study for the EIB.

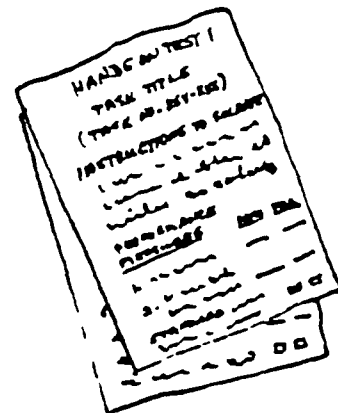


➡ When you constantly quiz yourself and repeat the main ideas, you've got a lot better chance of remembering than the guy who just lets it go in one ear and out the other. You're being an active learner!

SCORING GO ON THE HANDS-ON TASKS

SHORTENING THE STEPS

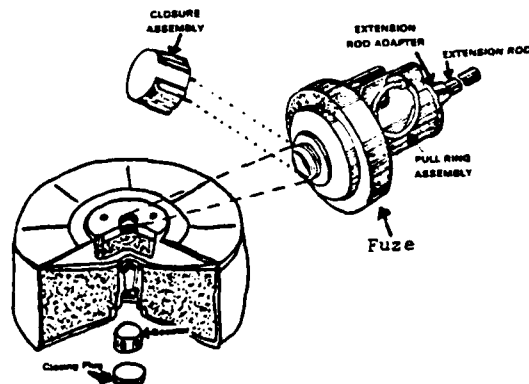
After you've passed all your prerequisites, you've got the Hands-on Component of the SQT to do. Remember you've got to score GO on all twelve tasks in order to continue for your EIB. This is really going to test your study skills.



- ➡ You've got to be an active learner by doing something with the material. You've got to put it in a form that'll connect for you. That doesn't mean just reading it over and over, but doing something with what you read.

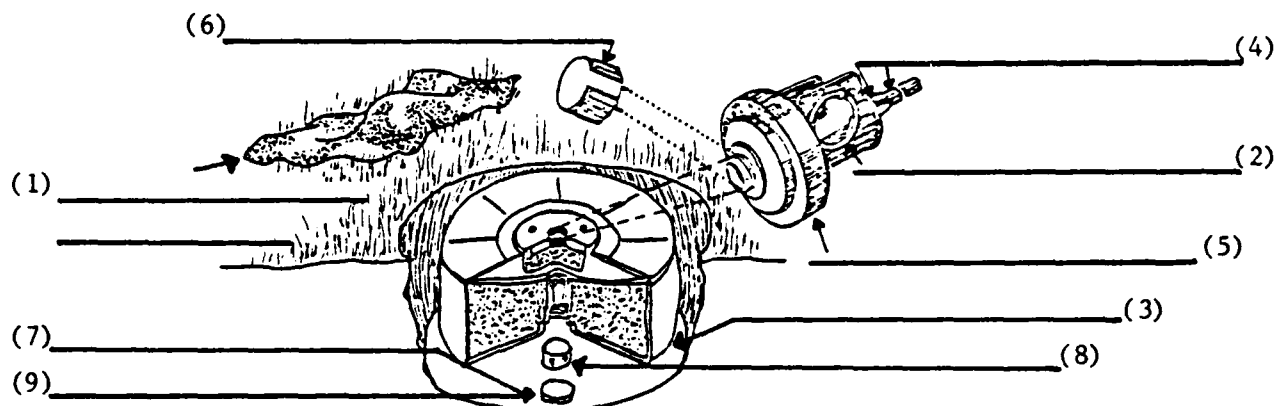
One of your hands-on tasks might be Disarming the M21 Metallic Antitank Mine. Here are the performance measures and a diagram of the mine parts.

- (1) check for evidence of booby traps while removing camouflage,
- (2) attach safety pull ring assembly,
- (3) remove the mine from the hole,
- (4) remove tilt rod and adapter (if used),
- (5) remove fuze,
- (6) attach closure assembly to the fuze,
- (7) remove the closing plug,
- (8) remove the booster from the bottom of the mine,
- (9) replace the closing plug.



Whew! That's a lot of stuff to remember. How about shortening the performance measures to help you remember.

Here's a diagram of the mine with the part of each performance measure numbered.



Look at the first two performance measures and see how they've been shortened.

(1) check for evidence of booby traps ----> check camouflage for booby traps while removing camouflage

(2) attach safety pull ring assembly ----> attach safety

Now, write those shortened steps in the correct spaces on the diagram above.

OK, you try to shorten a few of the performance measures. Pick out the "key" words in each phrase to shorten the steps.



(3) remove the mine from the hole ----> _____

If you cut it down to "remove from hole," you'll get the meat of it. After all, you know it's a mine! Write your step on the diagram, then try another one.

(4) remove tilt rod and adapter (if used) ----> _____

If yours is similar to "remove rod and adapter," then you're on the right track. Write that in on the diagram. Now, go ahead and try the others on your own. Be sure to write your shortened steps on the diagram, too.

(5) remove fuze ----> _____

(6) attach closure assembly to the fuze ----> _____

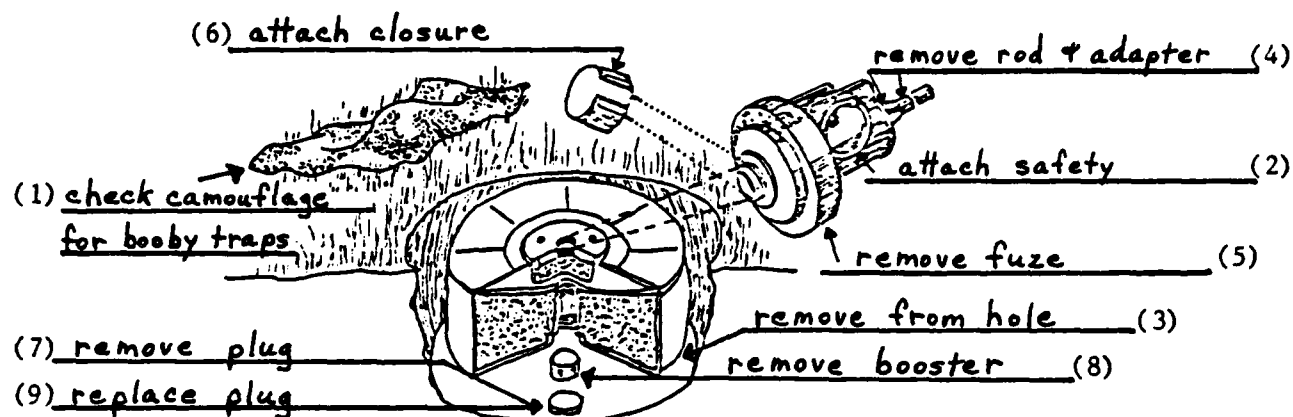
(7) remove the closing plug ----> _____

(8) remove the booster from the bottom of the mine ----> _____

(9) replace the closing plug ----> _____

Here are the shortened steps and the completed diagram.

- | | |
|--------------------------------------|--------------------|
| (1) check camouflage for booby traps | (6) attach closure |
| (2) attach safety | (7) remove plug |
| (3) remove from hole | (8) remove booster |
| (4) remove rod and adapter | (9) replace plug |
| (5) remove fuze | |



Maybe this still seems like a lot to remember. Well, how about using just one word from each step? Here are the shortened steps again. Cross out everything but the action word in each step.

- (1) check ~~camouflage for booby traps~~
- (2) attach safety
- (3) remove from hole
- (4) remove rod and adapter
- (5) remove fuze
- (6) attach closure
- (7) remove plug
- (8) remove booster
- (9) replace plug

All right, you should be left with **check...attach...remove...remove...remove...attach...remove...remove...replace.** Uh oh, how are you going to remember what all those "removes" mean! This calls for a little more strategy. The steps can be put into three categories.

The first three are done while the mine is in the ground.

- | | | |
|------------|---|----|
| (1) check | } | IN |
| (2) attach | | |
| (3) remove | | |

OK. Now the next three are done while the mine is out of the hole. Sometimes it's harder to remember things from the middle of a list, so repeat these three to give yourself a better chance for remembering them.

- | | | |
|------------|---|-----|
| (4) remove | } | OUT |
| (5) remove | | |
| (6) attach | | |

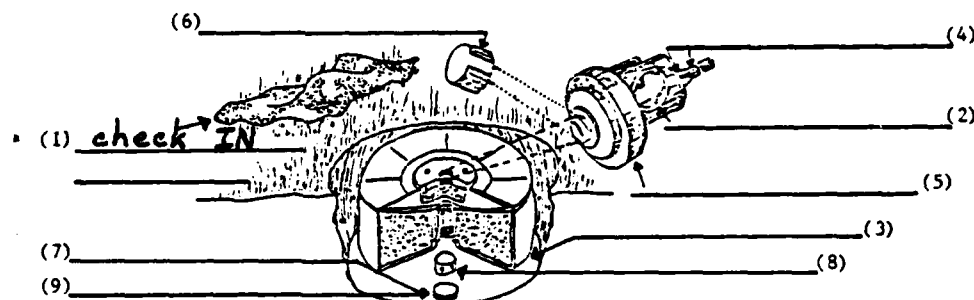
And now, the last three are done underneath the mine.

- | | | |
|-------------|---|-------|
| (7) remove | } | UNDER |
| (8) remove | | |
| (9) replace | | |

IN, OUT, and UNDER -

those ought to be easier to remember.

Write the action words and categories on the diagram. The first one is done as an example.



Suppose you want an even shorter way to remember the steps for disarming the mine. You can use your last strategy with the categories of IN, OUT, and UNDER, and then reduce each action word to its first letter. You write it down so you can form a mental picture of it during the hands-on test.

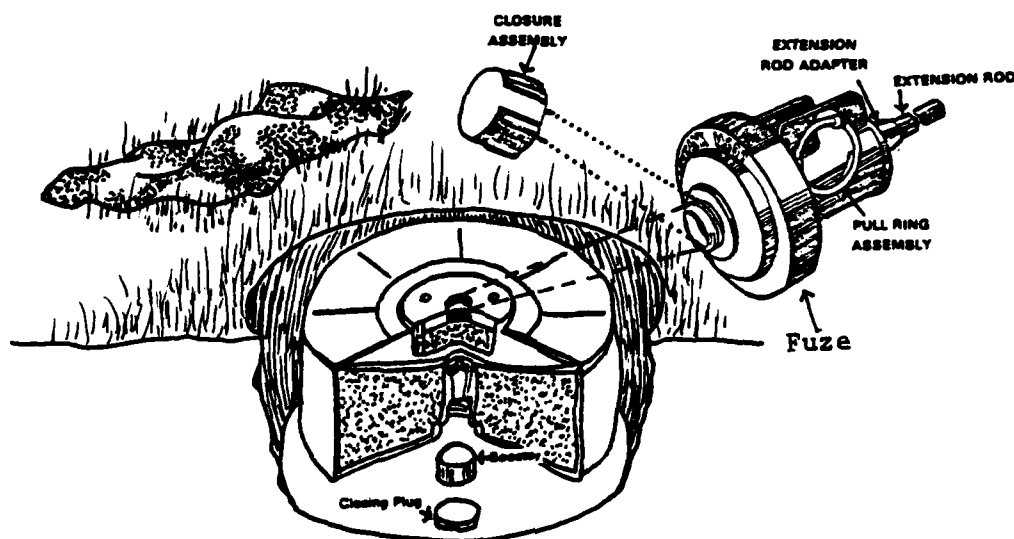
- | | | |
|-----------|---|-------|
| (1) _____ | } | _____ |
| (2) _____ | | |
| (3) _____ | | |

- | | | |
|-----------|---|-------|
| (4) _____ | } | _____ |
| (5) _____ | | |
| (6) _____ | | |

- | | | |
|-----------|---|-------|
| (7) _____ | } | _____ |
| (8) _____ | | |
| (9) _____ | | |

Go ahead. Write the first letter of each action word and the categories.

Now, you've been over the steps to disarming an antitank mine many times, and you've been an active learner by doing something with those steps. It may all have seemed quite different from the "studying" you've done before, but you probably know most of the steps now. Go ahead; test yourself.



OK. Ready. Go! Write down the steps for disarming the mine.

- (1) _____
- (2) _____
- (3) _____
- (4) _____
- (5) _____
- (6) _____
- (7) _____
- (8) _____
- (9) _____

Bet you made it through with flying colors! You can go back to page 17 or 19 to check your answers. If you got six or more, you're well on your way to knowing the performance measures for disarming the M21 mine.

FINDING MAIN AND SUPPORTING IDEAS

Another task you'll probably have to learn is "Locate Mines by Probing." In this task the order is very important because by forgetting something you can get blown away. If you really understand the material you'll realize why the order is so important.

Let's try an example first. Are you interested in cars? Take a look at the following paragraph. Read it and find the main idea - the one statement that seems to sum up the whole paragraph. Don't forget, the main idea can come anywhere in a paragraph. Select your answer from the choices given.

"Checking for wires that have become disconnected is one of the first steps in troubleshooting. Hoses, too, can become unattached due to engine vibration, loose clamps, or excessive pressure. By first looking for those things that are easy to see and fix, you can save both time and money."

- A. Check for unconnected wires
- B. Hoses can become unattached
- C. Look first for things easy to see and fix

The last answer was correct. Now write it down. You might be wondering why you need to write it. One of the best ways to learn something is by doing something with the material you want to learn. One of the best ways to start is by writing it down in your own words.

Main Idea _____

"Checking for wires that have become disconnected is one of the first steps in troubleshooting. Hoses, too, can become unattached due to engine vibration, loose clamps, or excessive pressure. By first looking for those things that are easy to see and fix, you can save both time and money."

Take a look at those other sentences. They're sort of examples of the main one.

Now write them under the main idea.

Main Idea look for things easy to see and fix

Supporting Ideas _____

When you look at your list you should be able to see how the order of things you do can be so important. If you had to troubleshoot your engine, you wouldn't start by adjusting the carburetor. You'd start by doing what? (Write down your answer.)

Yes, by looking for things easy to see and fix.

And, which things are easy to see and fix? (Write down your answer.)

Ah, yes ... disconnected wires and hoses.

See, you know it already! Now don't you think it helped to take the paragraph apart, write down the main and supporting ideas, and talk about it? That's how you learn things!

Now's your chance to practice. Look carefully at the paragraph. Read it and write down the main idea.

"Without proper automotive maintenance, you will have to replace your tires at more frequent intervals than normal. A tire which is under-inflated will wear rapidly on the sides of the tread since the center collapses with less air pressure. Overinflation causes the opposite effect: the center of the tread wears most rapidly. Other uneven and rapid tire wear patterns can be seen on cars that have mis-aligned steering and suspension."

After you've written the main idea, compare it to the suggested answer on the next page.

Main Idea _____

Main Idea poor maintenance causes rapid tire wear

Yours may not read exactly like this, but it should at least say something about improper maintenance causing increased tire wear. If yours doesn't say something like this, go ahead and change it now.

Read the paragraph again and write down three statements that support the main idea. The supporting ideas don't have to be in any order, so long as they contain the three major points.

"Without proper automotive maintenance, you will have to replace your tires at more frequent intervals than normal. A tire which is underinflated will wear rapidly on the sides of the tread since the center collapses with less air pressure. Overinflation causes the opposite effect: the center of the tread wears most rapidly. Other uneven and rapid tire wear patterns can be seen on cars that have misaligned steering and suspension."

Main Idea poor maintenance causes rapid tire wear

Supporting Ideas

Main Idea poor maintenance causes rapid tire wear

Supporting Ideas underinflation wears out sides of tread

overinflation wears out center of tread

incorrect alignment causes other types of wear

If your three ideas look somewhat like these, you're right on track.

If they don't contain similar ideas, check your main idea again and ask yourself: "What is poor maintenance?" The other points must support or be examples of your main idea. In this paragraph the examples given are underinflation, overinflation, and incorrect alignment.

What does all this have to do with probing for mines? Let's look.

There's a caution paragraph and a list of steps already given in outline form. But, if you want to learn them, you'll have to put them in a form that'll help you remember them. Look carefully at the caution paragraph. Read it; then write down the main idea and the supporting ideas.

TASK NUMBER: 051-192-1022

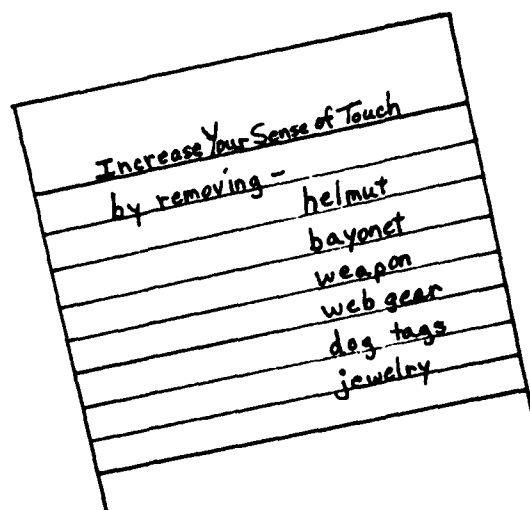
LOCATE MINES BY PROBING

CAUTION: PRIOR TO PROBING, ITEMS SUCH AS HELMETS, BAYONETS, WEAPONS, AND WEB GEAR SHOULD BE REMOVED AND PLACED TO YOUR REAR. DOG TAGS AND JEWELRY SHOULD BE REMOVED AND PLACED IN EITHER POCKETS OR WEB GEAR PRIOR TO ENTERING, OR UPON BECOMING AWARE OF BEING IN, A MINED AREA. THIS INCREASES YOUR OVERALL SENSE OF TOUCH.

Check your responses with the suggested answers on the following page.

Did your main idea come from the last sentence that referred to "increasing your overall sense of touch?"

Do your supporting ideas contain the items that are summed up by the main idea? They should, regardless of what order you put them in, because those are the items that need to be removed to increase your overall sense of touch.



If you don't have roughly the same information, take time now to list these supporting ideas under your main idea.

Now, you've got the paragraph outlined. Should you just read over the rest of the steps? No, you've got to do something that'll help you remember them.

All finished? Take a look at the suggested answers and compare them to yours. You should have the steps ordered in the way you do them.

Notice that there are three categories:

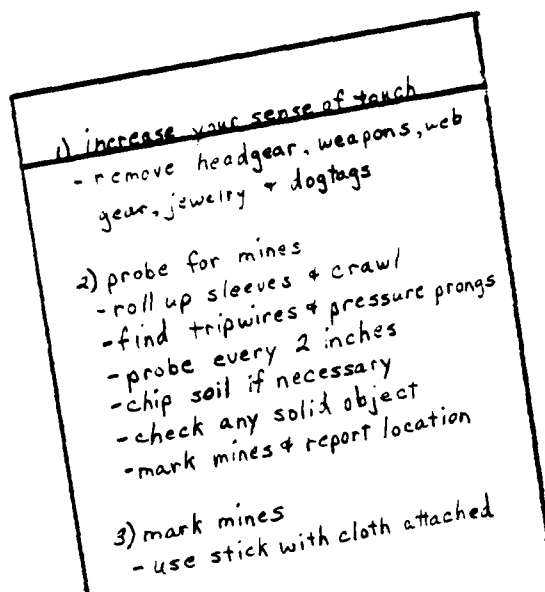
- (1) increasing the sense of touch,
- (2) probing for mines, and
- (3) marking the mines.

Grouping the steps into these three categories would probably help you remember what you need to do.

Again, this may not have seemed like "studying" to you, but if you've been following the message in this handbook, you know that what you've just done is the best form of studying because you did something with the material.

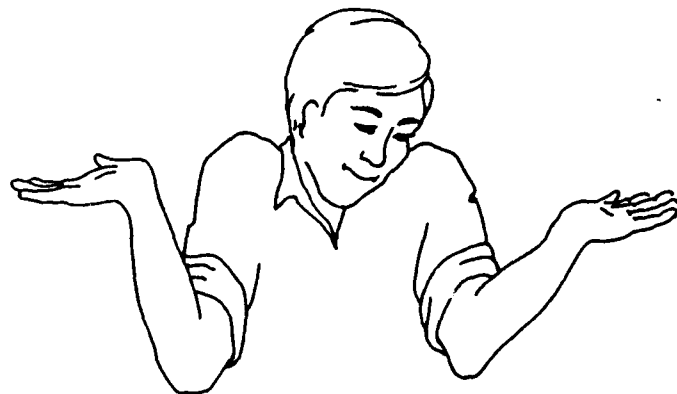
Go on; give it a try. See if you can say the procedure for probing for mines. Then try to explain the steps to a buddy.

➡ Remember, a good learning strategy for finding out how well you've learned something is to try to explain it to somebody else.



MAKING CONNECTIONS WITH THINGS YOU KNOW

Everyday people give messages to one another without using words. They use face, body, and hand movements to "tell" you something. Look at the picture. If you saw a person



doing this, you'd know right away that he was telling you, "I don't know."

You will probably have to learn the visual signals to control movement. This would be a good task to try the strategy of making connections with things you already know. What do you think this message is?

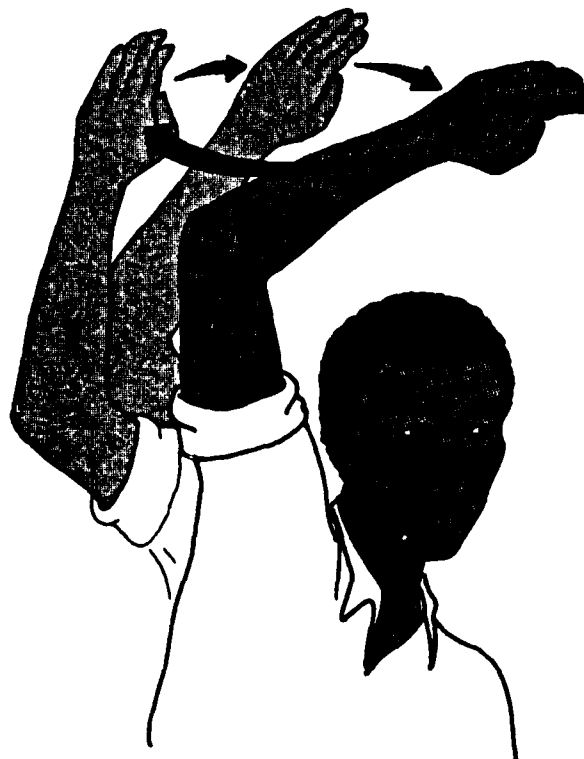


Did you think, "Don't look!" or "I can't look!"?
Good, because you certainly don't want to look
when there's a nuclear warning! Here's how
the signal looks in your manual.



NUCLEAR WARNING. Cover both eyes with the right hand to warn exposed troops to take cover before the detonation of nuclear weapon.

What would you think of this motion?



Maybe you thought, "round 'em up, cowboy."
That's pretty close. Look at the manual
drawing for Assemble.



ASSEMBLE or RALLY. Raise the arm vertically overhead, palm to the front, and wave in large horizontal circles.

NOTE: Signal is normally followed by the signaler pointing to the assembly or rally site.

Try this one, now.



You might have come up with "get moving" or "get it together, man." Just remember to get it together for Prepare for Action. Here is the manual drawing.



PREPARE FOR ACTION. Raise the fist to the waist and rotate forearm several times in horizontal, clockwise circles.

OK. What do you think this one means?

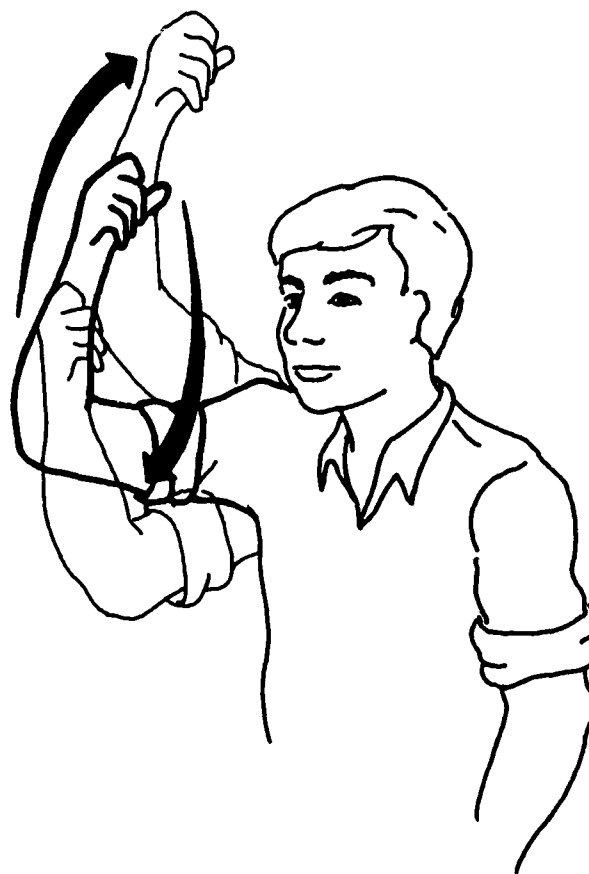


Maybe this was a little harder. How about,
"You're hit." ... "You're hurt." ... "You're
out of action."? The manual gives this
drawing.



OUT OF ACTION. Strike the closed fist of one hand several times in rapid succession against the open palm of the other hand.

Now, what do you think this might mean?

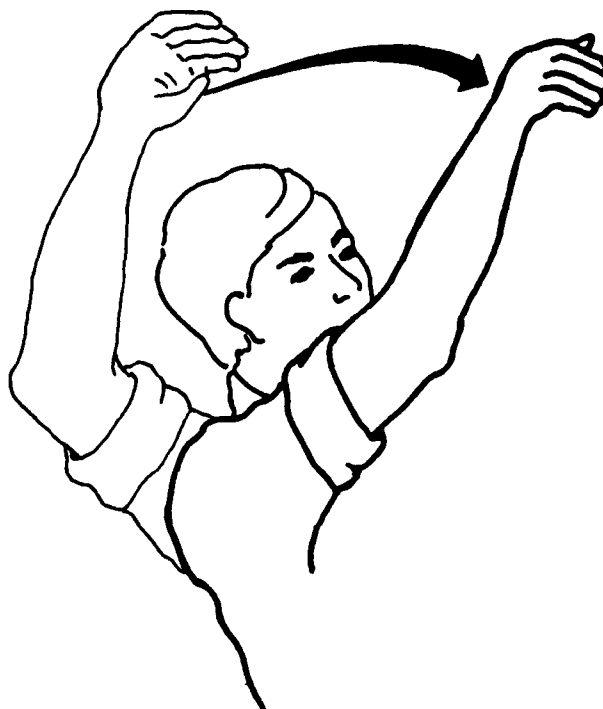


What did you guess: "Crank it up, baby"?
That's close. Focus on how fast his arm is
moving to think of Increase Speed. Check
out the manual drawing.

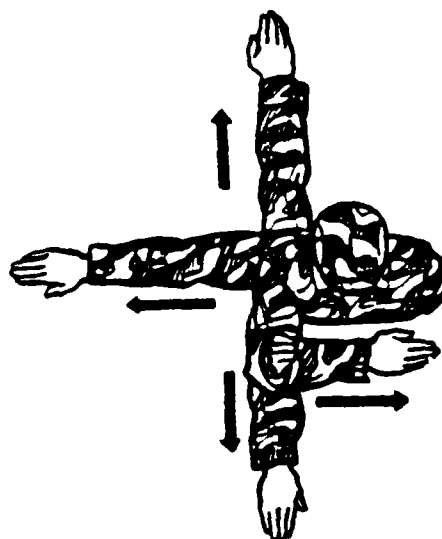


**INCREASE SPEED, DOUBLE TIME,
or RUSH.** Raise the hand to the
shoulder, fist closed; thrust the fist
upward to the full extent of the arm
and back to the shoulder rapidly
several times.

Try one more. What do you think?



Did you think, "go away," "beat it"?
That should be an easy way to remember
Disperse. Look at the manual picture.



DISPERSE. Extend either arm vertically overhead; wave the hand and arm to the front, left, right, and rear, with the palm toward the direction of each movement.

The strategy here is to make a connection,
no matter how silly, to help you remember
what the signal means. Here's the signal
for Nuclear Warning again. You might
think the person giving this signal is
saying, "Nuclear weapons! Don't look!"
Writing that down in your manual will
help you remember it now, and later when
you're reviewing it.



NUCLEAR WARNING. Cover both eyes with the right hand to warn exposed troops to take cover before the detonation of nuclear weapon.

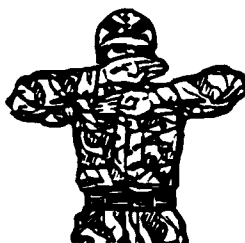


NUCLEAR WARNING. Cover both eyes with the right hand to warn exposed troops to take cover before the detonation of nuclear weapon.

But for this practice just write your interpretation beside each picture - just like the example. Look at each signal and try to find an interpretation of the action that will help you remember it. Writing down your interpretation (no matter how crazy it may be) will help you remember the visual signals. There are seven signals for you to interpret.



NUCLEAR WARNING. Cover both eyes with the right hand to warn command troops to take cover before the detection of nuclear weapons.



I DO NOT UNDERSTAND. Raise both arms sideways to the horizontal; bend both arms at elbows and place both hands across the chest, palms to front.



JOIN ME, FOLLOW ME, COME FORWARD, or MOVE VEHICLE FORWARD. Point toward personnel, vehicles, or units; motion by holding the arm horizontally to the front, palm up, and motioning toward the body.



ATTENTION. Extend the arm sideways, slightly above horizontal, palm to the front; wave arm up and away from the head several times.



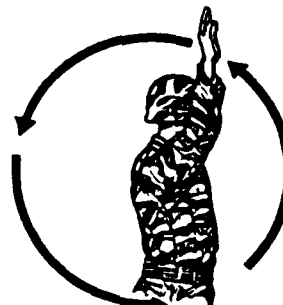
NUCLEAR, BIOLOGICAL, CHEMICAL (NBC) HAZARD. After donning the field protective mask, extend both arms horizontally sideways with fists doubled facing up; rapidly move fists to the head and back to the horizontal; repeat.



ADVANCE or MOVE OUT. Face the desired direction of movement; hold the arm extended to the rear; then swing it overhead and forward in the direction of desired movement until it is horizontal, palm down.



DISREGARD PREVIOUS COMMAND or AS YOU WERE. Raise both arms and cross them over the head, palms to the front.



COLUMN FORMATION (or FILE). Raise either arm to the vertical position. Draw the arm to the rear, swinging completely around in a vertical plane parallel to the body. The signal may be used for a column of dismounted troops or a vehicular column.

It was probably difficult to think of interpretations for some of those. But, if you succeeded you're ready for an exercise to see how well they'll work to help you remember.

 # Match the signal on the right with its correct title on the left. #
 #####

___ 1. Nuclear, Biological, Chemical (NBC) Hazard



___ 2. I Do Not Understand



___ 3. Prepare For Action

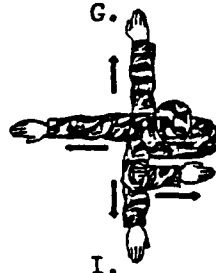


___ 4. Disregard Previous Command

___ 5. Column Formation



___ 6. Advance



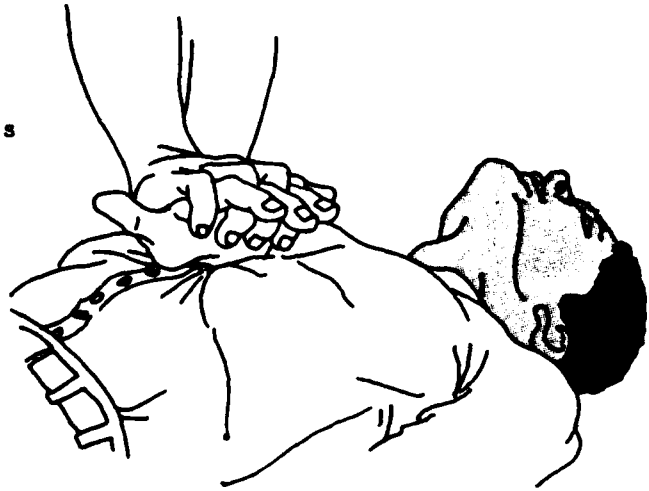
ANSWERS: C, E, J, H, F, A

PERFORMING THE ROUNDOUT TASKS

MAKING FLOW DIAGRAMS

You've seen how this active learner business works, and maybe you're beginning to think up some great ideas for really doing something with the things you need to learn.

A learning strategy that can really get you involved is actually practicing what you need to do. A good example of this is Cardiopulmonary Resuscitation - commonly called CPR. Of course, before you rush off to practice on one of the manikins, you need to study the steps first - you know, really understand the procedure. You know by now that this doesn't mean just reading the steps over and over.



➡ You've got to be an active learner by doing something with the material.

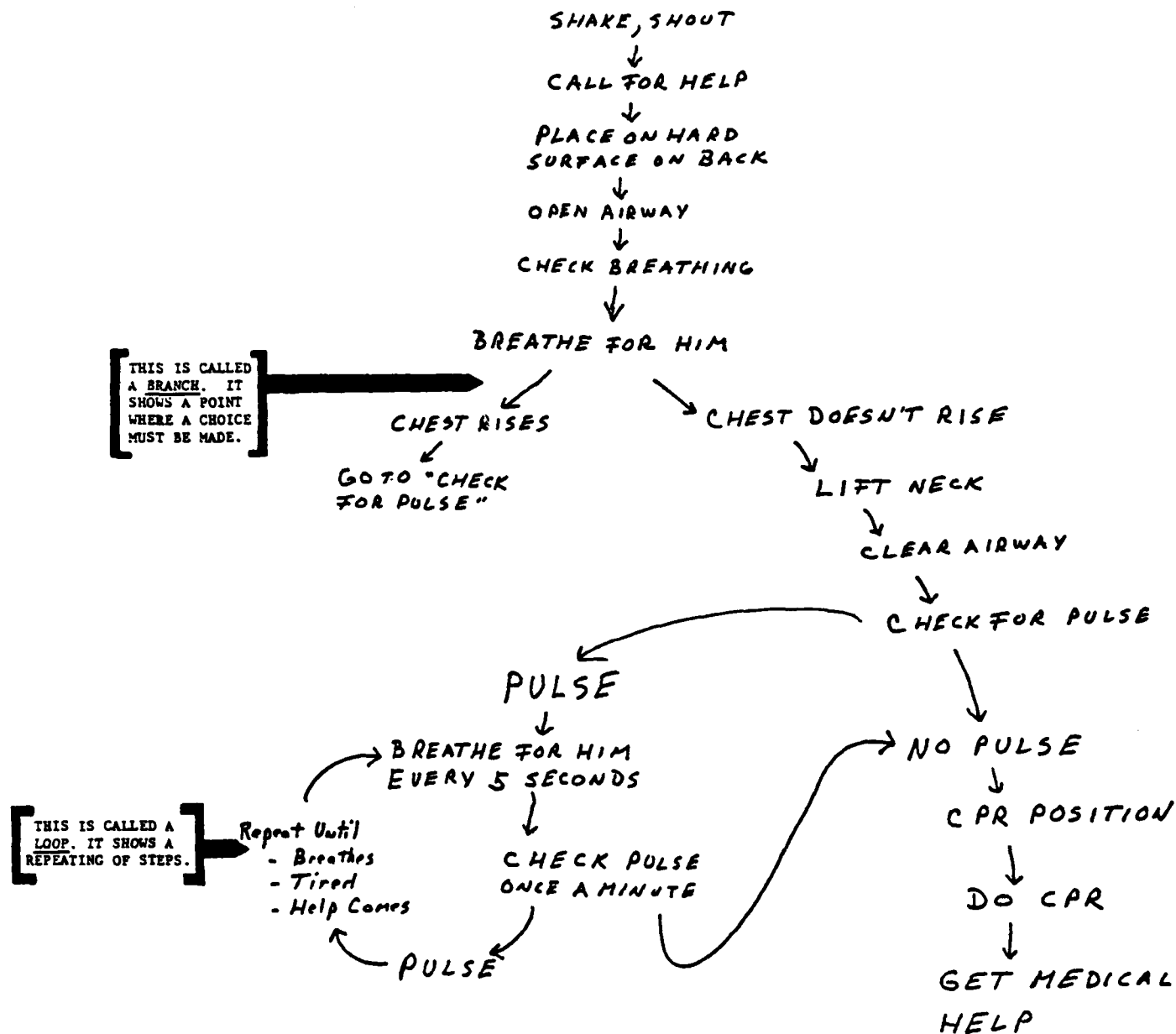
CPR has many steps and decisions, and a flow diagram could really help you remember these procedures.

Here are the performance measures for performing CPR on an adult.

PERFORMANCE MEASURES

1. *Shake the soldier's shoulder.* Shout, "Are you O.K.?"
2. *Yell, "Help."*
3. *Place him on a hard surface on his back, face up.*
4. *Open the airway.*
5. *Check for breathing.*
6. *Breathe for him.*
7. *Lift his neck higher so his head tilts back farther.*
8. *Clear the airway.*
9. *Check for a pulse.*
10. *Get into the CPR position.*
11. *Do CPR.*
12. *Get medical help.*

Here's what the flow diagram of the CPR performance measures would look like.



That looks pretty complete, doesn't it? But, those are just the performance measures. You still have to go through and diagram the steps within each performance measure.

➡ Don't be tempted to give up because this looks like a lot of work. This is studying because you have to think about the information in order to diagram it. And, that's when you begin to learn it.

Try one and you'll see for yourself. Here are the steps for performance measure 9 - Check for a Pulse.

9. Check for a pulse.
- Place the first two fingers of your hand closest to his feet on his throat. Slide your fingertips into the groove beside his Adams Apple. Feel for a pulse.
 - If you find no pulse, go to performance measure 10.
 - If you find a pulse and he is still not breathing, breathe for him once every 5 seconds until:
 - He begins breathing on his own and he still has a pulse, or
 - You are relieved by a qualified person, or
 - You are too tired to go on.
 - Check his pulse once a minute. If his pulse stops, go to performance measure 10.

You'll want to shorten each step to just the words you need for remembering.

a. place 1st 2 fingers on throat near Adams Apple; feel for pulse

b. no pulse - CPR position

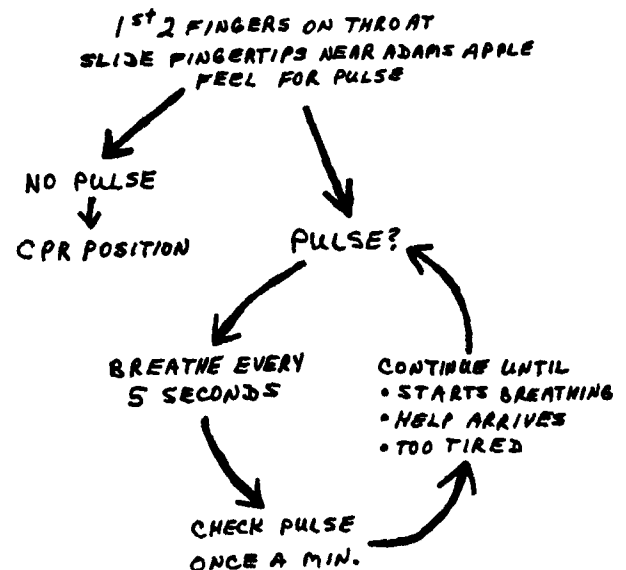
c. pulse but not breathing - breathe every 5 seconds until:

- starts breathing
- help arrives
- too tired

d. check for pulse once a minute

CHOICE POINT -
CALLS FOR A
BRANCH

REPEATS -
CALLS FOR A
LOOP



Now you try it. Make a flow diagram listing each of the steps.

6. *Breathe for him.* See figure 1002-3.

a. Pinch his nose closed with the thumb and forefinger of your hand that was on his forehead.

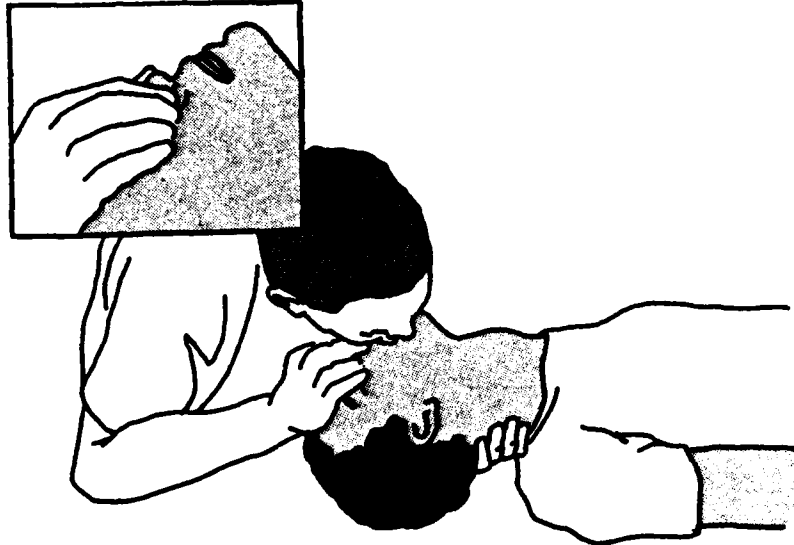


Figure 1002-3

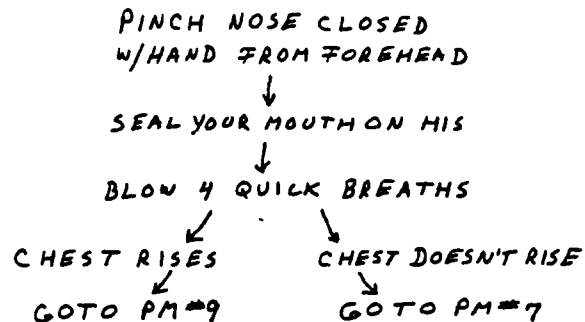
- b. Seal your mouth over his mouth.
- c. Blow four quick, full breaths into his mouth.
- d. If his chest rises, go to performance measure 9. If his chest does not rise, go to performance measure 7.

DRAW YOUR DIAGRAM HERE

And remember, if you come to a choice point - put in a branch.

Compare your diagram to this one. Does it look pretty much the same?

The first three steps are pretty straight forward. It's only when you get to the last step that you have to branch. Whether or not his chest rises after you've blown into his mouth will determine which performance measure you'll go to next.



Now see what you can do with this one. Make a flow diagram of the steps involved in CPR.

11. *Do CPR.*

- a. Keep your arms straight and fingers locked together. Push his breastbone down 1 1/2 to 2 inches.
- b. Lift up. Keep the heel of your hand on his chest. Do not bounce.
- c. Push down 15 times while counting out loud "one and two and three, etc" ...up to 15. Push down as you say the number and lift up as you say "and." After push number 15, give him two full, forceful breaths. This is one cycle.
- d. Do four cycles in 1 minute. Each time you complete four cycles, check for his pulse next to his Adams Apple.
- e. If you find a pulse and he is still not breathing, breathe for him once every 5 seconds as you did in performance measure 9c.
- f. If you find no pulse, continue CPR until:
 - (1) He starts to breathe on his own and you feel a pulse, or
 - (2) You are relieved by a qualified person, or
 - (3) You are too tired to go on.

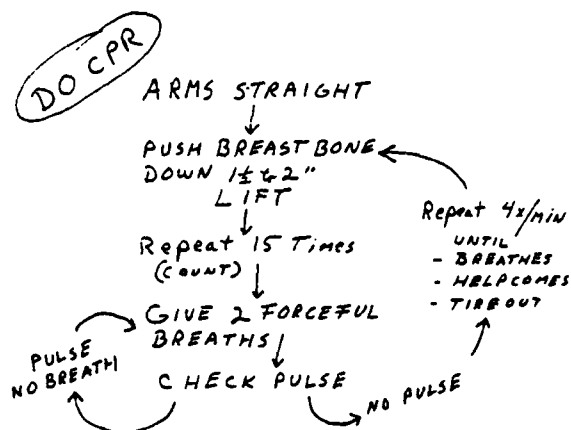
DRAW YOUR DIAGRAM HERE

Remember about branches and loops.

Check your diagram with this one.

Once again the first few steps are pretty straight forward. You need a branch after checking for a pulse.

If you find a pulse - but no breath - then you breathe for him. If he has no pulse, you repeat this whole procedure - it's a loop.



You've really been an active learner with the CPR procedure!

➡ Whenever you have to learn material that has many steps and decisions, a flow diagram is a really good learning strategy for helping you remember everything.

USING DIFFERENT STRATEGIES

There are different ways of working with the same information. Take Processing Enemy Personnel as an example. The performance measures are shown to the right.

The first way you might think of to remember this material is 5ST.

Notice that there are six performance measures, and the first five have key words beginning with the letter S, and the last one starts with T. Maybe this will work, but you might have to try really hard to remember all those S's.

You could make a sentence or two out of the key words to help you remember the performance measures.

Search and segregate the prisoners. Keep them silent as you speed them to safety and tag them, too.

This can be a good way to remember things, and it might work great for you.

PERFORMANCE MEASURES:

Suspected or known enemy personnel must be handled under the following rules:

1. **SEARCH** prisoners (figure 1) for weapons and documents as soon as you capture them. Take weapons to prevent resistance and take documents, except individual identification papers, to prevent the prisoners from deceiving them. Prisoners from whom personal property is taken, including personal documents, should be given a written receipt for the property. Tag documents and personal property taken so you know which prisoner had them. Allow prisoners to keep items needed for their general welfare or safety such as a protective mask.



Figure 1.

2. **SEGREGATE** them into groups (figure 2): officers, noncommissioned officers, privates, deserters, civilians, females, and political indoctrination personnel. This prevents the leaders from organizing for a mass escape and from making the rest of the prisoners security-minded.



Figure 2.

3. **SILENCE** (figure 3) is essential. Do not allow prisoners to talk to each other. This helps to prevent plans of escape.



Figure 3.

4. **SPEED** (figure 4) prisoners to the rear. The information they have does no good until obtained by an interrogator and processed.



Figure 4.

5. **SAFEGUARD** the prisoners (figure 5) as you take them to the rear. Do not allow anyone to abuse them, but do not allow anyone to give them cigarettes, food, or water.



Figure 5.

6. **TAGGING.** A PW tag should include the capturing unit (a complete unit identification), date and time of capture, place of capture (grid coordinates or reference from a known point), and circumstances of capture (how PW was captured). The same format is used for documents and equipment except that circumstances identify where documents or equipment came from (i.e., from PW Ivan Schmidt, "found on dead enemy soldier", etc.) (figure 6).

NOTE: Tags may be printed before combat or made out of materials at hand on the battlefield.

	THIS DOCUMENT CONTAINS:
	DATE/TIME CAPTURED _____
	PLACE OF CAPTURE (GRID COORDINATES) _____
	CAPTURING UNIT _____
	CIRCUMSTANCES OF CAPTURE (HOW CAPTURED) _____

Figure 6.

The next method might be pretty far out, but it does work for some people. You can make up silly words from the first or last letters of each key word. For example, "seagate" and "silspesaft." You wouldn't get much information about the performance measures, but this might be just enough to remind you of what you need to know.



IT'S SIMPLE --

S	E	A	FROM SEARCH
G	A	T	E FROM SEGREGATE
S	I	L	FROM SILENCE
S	P	E	FROM SPEED
S	A	F	FROM SAFEGUARD
T			FROM TAG !

All of the needed information could be covered by making up a song about processing enemy personnel. Actually, this one is more like a chant or rappin'. Clap your hands to get a beat and give this song a try.

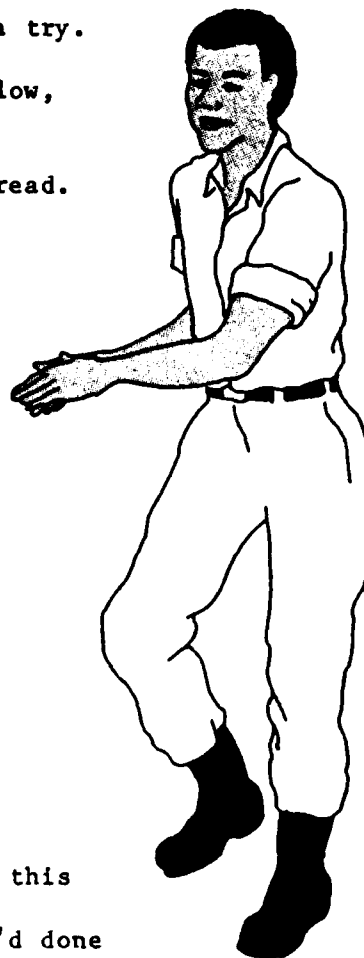
Well, you search them high and you search them low,
Cuz they might have weapons and paper you know.
The weapons they'd use to shoot you dead,
And the papers they'd burn so they couldn't be read.
Take it all away 'cept for their ID
And things they need for their own safety.

Then segregate them into groups -
Officers, women, and regular troops.
Silence them all, really keep them silent;
They might be planning something violent.
Speed them to the rear - now, not later.
Get them to see an interrogator.

When you take 'em into custody,
Safeguard the troops, and then you see,
Don't be lettin' no one abuse 'em;
No food or water to amuse 'em.
Tag their stuff, note day and time;
Mark down your unit, cuz ya done real fine.

Report where and how you got the score,
And then go back and get some more.

This may be kind of corny, but if you had made up this chant as a learning strategy, you'd know that you'd done a great job of getting all the details of processing enemy personnel.



CREATING MEMORY AIDS

There are other ways to remember things, and any trick that works - use it.

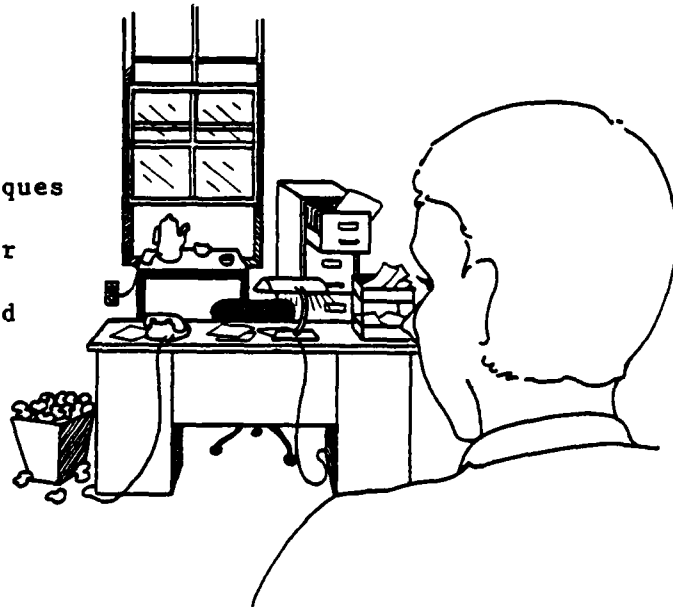
Like when you're in a firing situation and your rifle stops. The letters in the word "sports," S-P-O-R-T-S, remind you to SLAP, PULL, OBSERVE, RELEASE, TAP, SHOOT to get firing again. This is an example of a memory aid. One way to be an active learner is to make up a memory aid - mnemonics is what the experts call them.

Slap
Pull
Observe
Release
Tap
Shoot

➡ Using a memory aid is a good learning strategy. You just have to be sure that what you use really reminds you of the things you need to know.

PRACTICING WITH EXAMPLES

You can even apply some of the techniques to other stuff you have to learn. For instance - suppose you had CQ duty and had the job of closing up the office at night; you know, doing things like policing the room, closing the windows, and turning off the lights.



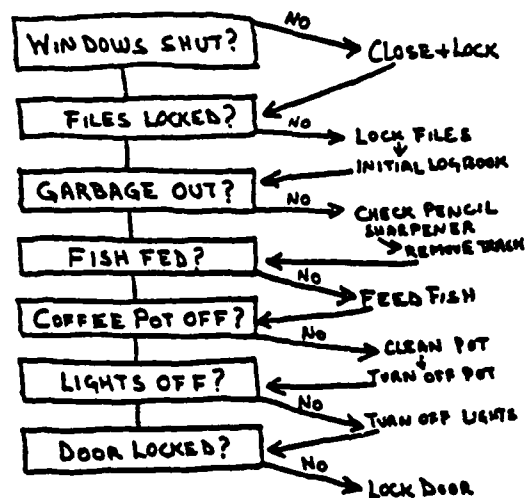
What would be the best strategy for learning the steps involved in CQ?

(Circle one)

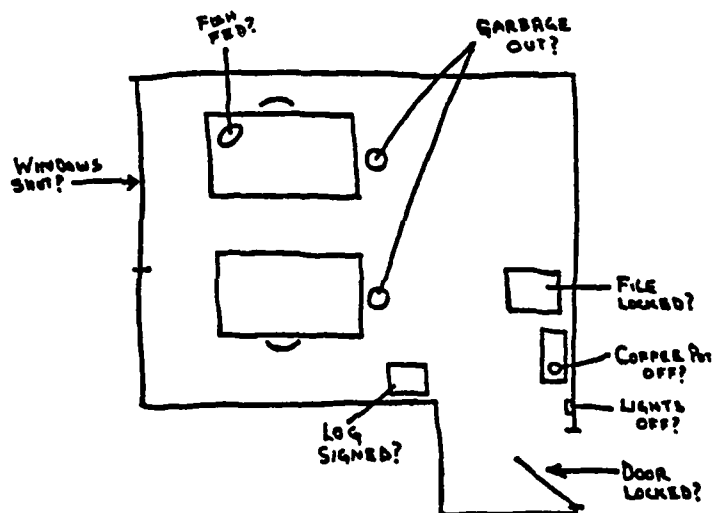
- A. make a flow diagram
- B. find the main idea
- C. draw a picture
- D. make a chart

CQ DUTIES

A flow diagram is a good choice.
It can help you pay attention to
the steps that require you to
make a decision.



Drawing a picture of the
room and labeling the
places where something
must be done might help, too.



Here's another example. At the
right is the performance measure
on how to collect and report
information on enemy personnel.
What is needed is a foolproof
method of remembering the six
key points.

2. A good way to remember how and what to report about the enemy is to use the letters of the word *salute*.

- a. Size. The number of personnel seen or size of object.
- b. Activity. What the enemy was doing.
- c. Location. Grid coordinates or reference from a known point, including distance and direction (or azimuth) from the known point.
- d. Unit. Describe any patches or clothing, distinctive signs or symbols, or ID numbers on vehicles.
- e. Time. The time the activity was observed.
- f. Equipment. Describe or identify all equipment associated with the activity.

What do you think would be a good strategy for remembering these steps?

(Circle one)

- A. draw a picture
- B. make a chart
- C. create a memory aid
- D. make a flow diagram

Right. The best choice is to create a memory aid. If you take the first letter of each important word, you get S-A-L-U-T-E. You may already know that the word "salute" is a memory aid the Army suggests for identifying the steps you need to take when reporting information.

What if you were thinking about putting in for Germany? You'd want to begin reading about the country in case you did get stationed there. One important thing to learn is exchange rates - how much dollars are worth in German marks. You'd want to understand prices so you could make your dollars go as far as possible. Read the paragraph to the right.

What would be a good method to use to learn to compare marks and dollars?

(Circle one)

- A. find the main idea
- B. make a chart
- C. draw a picture
- D. make a flow diagram

Size of group or objects
Activity - what they're doing
Location in grid coordinates
Unit identification
Time of observation
Equipment used

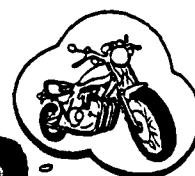
Because Germany has one of the lowest inflation rates in Europe, a vacation there can be cheaper than one in Scandinavia, France, or even parts of Italy. The exchange rate between the German mark and the dollar is approximately $2\frac{1}{2}$ marks to the dollar, although it varies daily. The most common coins are the one mark and five mark. The most widely circulated bills are the five (\$2), ten (\$4.25), twenty (\$8.50), fifty (\$21) and one hundred mark (\$42) bills.



A chart is a good way to learn information which involves comparison of things. The most common units of money in Germany are the 5, 10, 20, 50, and 100 mark bills - like in the United States they're the 1, 5, 10, and 20 dollar bills. Down one column

of the chart list the common German bills. Then find out the exchange rate, and figure out how much each German bill is worth in dollars. When you look at the chart you probably can see some patterns that will make it pretty easy to remember the rates for the marks.

Speaking of money, here's another example. Suppose you wanted to buy a motorcycle. While you were saving all the money you'd need, you could go ahead and start studying for a license test. Look at one of the first things in the operator's manual - "Check the Motorcycle."



COMMON BILLS IN GERMANY(DM)	VALUE IN DOLLARS(\$)
5 MARKS	2. -
10 MARKS	4.25
20 MARKS	8.50
50 MARKS	21. -
100 MARKS	42. -

CHECK THE MOTORCYCLE

An expert rider would no more jump on a motorcycle and start off than a pilot would jump in a plane and take off. If there's anything wrong with the motorcycle, the time to find out about it is before you are in the middle of traffic. Here are the things you should check before every ride.

Tires

Since you only have two tires, keep them in good condition. Check for:

- **Inflation**—The motorcycle does not handle properly if the air pressure is too low or too high. Check the owner's manual for the right amount of air.
- **Tread**—Worn or uneven tread can make the motorcycle hard to handle, particularly on wet pavement.
- **Damage**—Check for cuts or nails stuck in the tread. Also, the sidewalls should be checked for cracks. A blowout on a motorcycle can be extremely dangerous.

Brakes

Try the front and rear brakes one at a time. Make sure each one holds the motorcycle when it is fully applied.

Lights

Don't put your faith in lights that may not work. Keep them clean and check them regularly:

- **Turn signals**—Check all four turn signal lights. Make sure they flash when they are turned on and are bright enough to be seen.
- **Headlight**—Check your headlight. In daytime, pass your hand in front of the beam to make sure the headlight is really on. At night, try your dimmer to make sure both high and low beams are working.
- **Tail and brake light**—Try each of your brake controls and make sure that each one flashes your brake light.

Chain

Make sure the drive chain is properly adjusted and lubricated. When your weight is on the cycle, the chain shouldn't sag more than about 1/2 inch.

Gas and Oil

Check gas and oil levels before you start. Running out of gas is inconvenient. It can also be dangerous if it happens where you cannot get off the road quickly.

What strategy would you use to remember the five areas?

(Circle one)

- make a flow diagram
- use a memory aid
- draw a picture

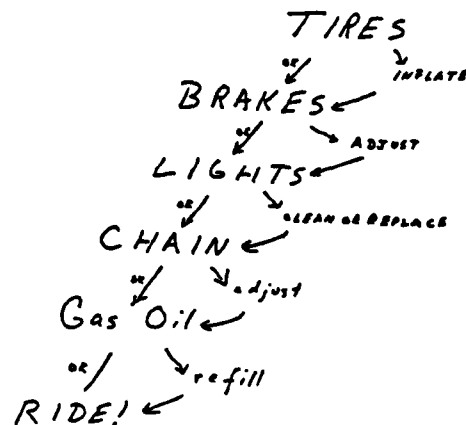
Actually, any of the three strategies might work for you.

After you've become familiar with the information, creating a memory aid using the first letter of each key word would help you to remember the points you should check. In fact, you could even make a sentence with the letters that begin each key word.

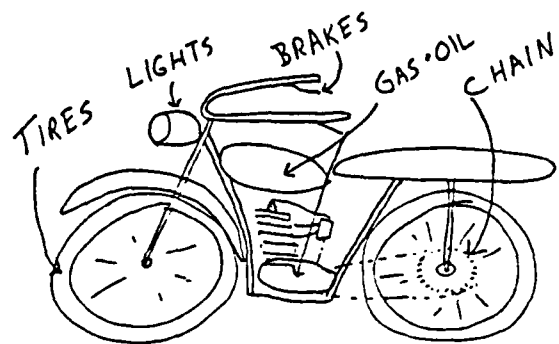
Tires
Brakes
Lights
Chain
Gas + Oil

The Busy Laborers Changed Gas + Oil.

Or you could have made a flow diagram, even though this strategy helps most when it's important that things are done in order.



You could also draw a picture. Just make a rough sketch of a bike and label each of the five areas.



Sometime you may want to learn more about a hobby and you'll sign up for a course. Look at the first reading assignment for a photography course. It was a short one, but the instructor stressed how important it was, so it would be a good idea to get it down.



Every picture you take must have a center of interest. In other words, there must be a main subject that means something to the viewer. It makes no difference if it is a landscape, a portrait, or an action snapshot. The picture's center of interest often tells the whole story.

What strategy would you select to remember this material?

(Circle one)

- A. find the main idea
- B. make a flow diagram
- C. make a chart
- D. draw a picture

Right. The best strategy in this case would be to find the main idea of the paragraph and rephrase it in your own words. Then find the most important supporting ideas and put them in your own words, too. Doing this should help you remember the material.

PHOTO NEEDS CENTER OF INTEREST

- MEANS SOMETHING TO VIEWER

- ALL KINDS OF PHOTOS

- TELLS WHOLE STORY

Let's see if the strategies can help you.

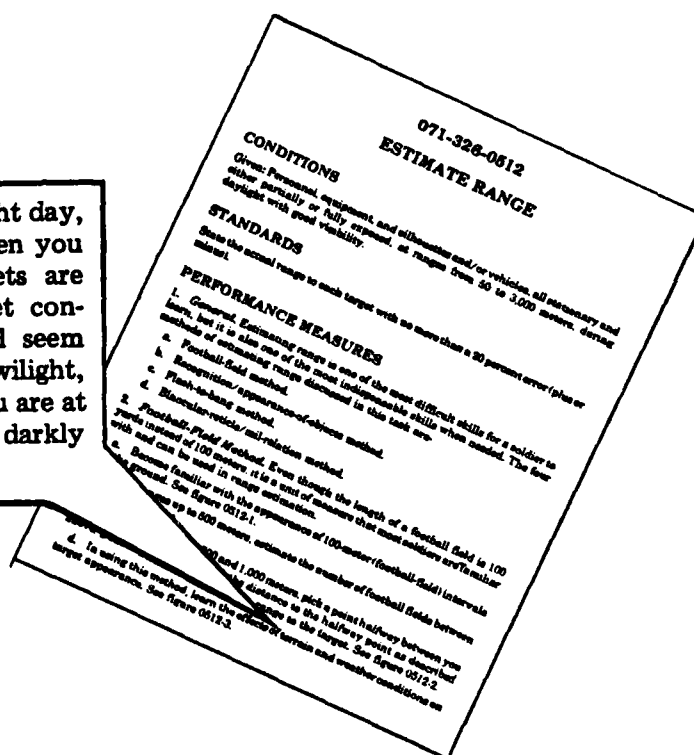
You're going to be looking at pages from manuals. Just as before, you'll select the best strategy to use. But, this time you'll actually do something with the material. Then there will be some questions so you can see how the strategies can work for you.

EXERCISE 1

There are a number of ways to estimate range - one of which is called the football field method. What you do is determine distance by estimating the number of football fields between you and your target.

In order to do this effectively, though, you have to be aware of the effects of terrain and weather conditions on target appearance, as described in the enlarged paragraph below.

Targets will appear closer when: it is a bright day, when the sun is in front of the target, when you are at higher elevations, when the targets are large, brightly colored or when the target contrasts with the background. Targets will seem further away when: it is foggy, rainy or twilight, when the sun is behind the target, when you are at lower elevations, when the target is small, darkly colored or camouflaged.



What do you think would be the best method for learning this information?

(Circle one)

- A. make a flow diagram
- B. create a memory aid
- C. make a chart
- D. find the main ideas

Making a chart is the best strategy when you are trying to learn the relationship between things - just like the example of trying to learn the relationship between U.S. dollars and German marks. Making a chart of this information should help you learn it.

If you want to go back and review the chart, turn to page 50.

When you're finished making your chart, go on to the next page.

EXERCISE 2

Now read this material on inspecting hand grenades for defects.

PERFORMANCE MEASURES

1. *Inspect grenade for defects.*
 - a. Check to insure that the fuze is not unscrewed from body of grenade.
 - b. Check to insure that the safety clip is in correct position.
 - c. If no safety clip is present, attach the clip to the grenade as follows:
 - (1) Slide clip onto handle.
 - (2) Attach loop portion of the clip around grenade fuze.
 - (3) Snap the clip end around the grenade safety lever.
 - d. Check safety pin.
 - (1) If the pin is partially removed, carefully push it into place while holding the lever securely down.
 - (2) If the pin is bent, carefully bend it back into position.
 - e. Check the safety ring. Reject the grenade if safety ring is cracked.
 - f. Check the lever. Reject grenades with broken levers.
 - g. Check for dirt. If dirty or grimy, wipe with a damp or dry cloth.
 - h. Check for rust. Turn in the grenade if rust is eating through it.

What do you think would be the best method for learning this information?

(Circle one)

- A. create a memory aid
- B. make a flow diagram
- C. draw a picture
- D. make a chart

Probably the best strategy in this case is to make a flow diagram, like the one for learning the steps involved in closing up the office.

Go ahead and try making a flow diagram here. If you want to recheck the diagram for CQ duties, turn back to page 48.

Go on to the next page when you're finished.

EXERCISE 3

Take a look at the first two performance measures for determining elevation of a point on the ground using a map.

1. The brown lines on the map are called contour lines. Each line shows the height above sea level. Contour lines never cross one another. Printed at the bottom of the map is the contour interval, which is the difference in height (elevation) between one brown line and the one on either side of it. On a map with a scale of 1:50,000, contour interval is usually 20 feet. This would make Point A 80 feet higher or lower than Point B (figure 1).

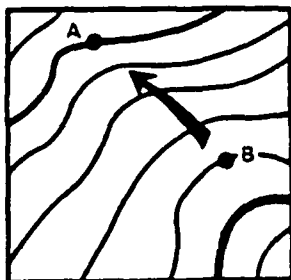


Figure 1

2. How can you tell from the brown lines whether it's uphill or downhill? Well, every fifth line is heavier than the rest and has a number that gives its elevation. Let's say that the contour interval is 20 feet again. Now you can tell that Point A is 80 feet higher than Point B. Also, if you know the ground distance between A and B, you can get an idea of how steep the slope is (figure 2).

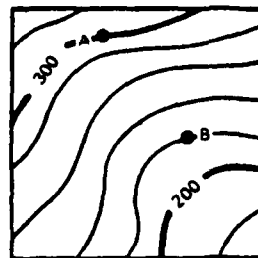


Figure 2

What do you think would be the best strategy for learning this information?

(Circle one)

- A. draw a picture
- B. make a flow diagram
- C. create a memory aid
- D. find the main ideas

The best method in this case would be to find the main idea and write it down in your own words. Then write down the supporting ideas. That's what was done for the photography course. If you want to review that work, turn back to pages 52 and 53. Then try the method here. Start with the first performance measure, then go on to the second one.

When you've finished writing your main and supporting ideas, go on to the next page.

EXERCISE 4

There are two circumstances when it becomes necessary to repair a field wire. When it's broken - of course, and when it's shorted or grounded out, it must be repaired. Take a close look at this information.

2. Repair field wire which is shorted or grounded out.

After you have located the section of the wire where the short or ground is, and you have found the damaged part:

- a. Cut out the entire damaged section of the wire.
- b. Resplice the wire.
- c. Secure the splices.
- d. Tape the splices.

What strategy would you use to learn this information?

(Circle one)

- A. create a memory aid
- B. make a flow diagram
- C. draw a picture
- D. make a chart

Probably the best technique here is to create a memory aid - like **SALUTE** - for identifying the steps for reporting information. Put the first one or two letters from the key words in each step together in some way that will help you remember them. Go back to page 49 if you want to look over the **SALUTE** memory aid. Then try to create your own here.

OK. That's it. Now take a few minutes and look over what you've done with each piece of information in Exercises 1 through 4. Then, after you've finished reviewing, try answering the questions on the following pages.

See if you can answer the following questions.

QUESTION 1

A target will appear closer:

- A. when it is small
- B. on a bright day
- C. when it is darkly colored
- D. when it is foggy

QUESTION 2

A target will appear farther away:

- A. when it is small
- B. when it is a bright day
- C. when it is darkly colored
- D. both A and C

Turn the page to check your answers.

A target will appear closer ON A BRIGHT DAY.

A target will appear farther away WHEN IT IS SMALL AND DARKLY COLORED.

If you answered B and D, you're off to a good start and should go on to the next page.

If your answers were any of the other choices, take a minute to compare this chart with the one you did for Exercise 1. Were you able to recognize the most important information in the material on estimating range?

<i>Terrain and Weather Effects</i>		
<u><i>Factor</i></u>	<u><i>Appears Near</i></u>	<u><i>Appears Far</i></u>
<i>Type of Day</i>	<i>Bright</i>	<i>Fog, Rain, Dark</i>
<i>Sun</i>	<i>Front</i>	<i>Behind</i>
<i>Height</i>	<i>Higher</i>	<i>Lower</i>
<i>Size</i>	<i>Large</i>	<i>Small</i>
<i>Color</i>	<i>Bright</i>	<i>Dark</i>
<i>Background</i>	<i>Contrasts</i>	<i>Blends in</i>

When you're ready for more questions, turn the page.

Try these questions.

QUESTION 3

The brown lines on a map are called:

- A. coordinate lines
- B. slope lines
- C. contour lines
- D. grid lines

QUESTION 4

The distance represented by the space between the contour lines is:

- A. the coordinate space
- B. a mile
- C. the contour interval
- D. always 40 feet

Turn the page to check your answers.

The brown lines on a map are called SLOPE LINES.

The distance represented by the space between the contour lines is THE CONTOUR INTERVAL.

Answers B and C were correct. If that's what you had, go on to the next page.

If you had any other answers, take a look at these notes on Exercise 3 that give the main idea and supporting ideas from the paragraphs on contour lines. Compare this to what you had.

PM #1

1. BROWN LINES CALLED CONTOUR LINES
2. CONTOUR INTERVAL IS HEIGHT DIFFERENCE BETWEEN LINES
 - CONTOUR INTERVAL ON BOTTOM OF MAP
 - USUALLY 20 FEET

PM #2

1. EVERY FIFTH CONTOUR LINE HEAVIER
 - ELEVATION GIVEN
 - TELLS HEIGHT DIFFERENCE

When you're ready to go on, turn the page.

You've got four questions to go. Here are the next two.

QUESTION 5

The first step in repairing a shorted or grounded out field wire is:

- A. resplice the wire
- B. tape the wire
- C. cut out the shorted section
- D. secure the splice

QUESTION 6

The last step in preparing a shorted or grounded out field wire is:

- A. tape the wire
- B. resplice the wire
- C. secure the splice
- D. cut out the shorted section

Turn the page to check your answers.

The first step in repairing a shorted or grounded out field wire is CUT OUT THE SHORTED SECTION.

The last step in preparing a shorted or grounded out field wire is TAPE THE WIRE.

If you chose C and A, keep right on going to the next page.

If you chose other answers, check your memory aid for Exercise 4. The word CREST for CUT, RESPLICE, SECURE, TAPE, might have helped you with these questions.

Cut
 ResplICE
 Secure
 Tape
C R E S T

Go on to the next page when you're finished with the memory aid.

Just two more questions to go.

QUESTION 7

If the pin on a grenade is partially removed, you should:

- A. check the safety ring
- B. leave it the way it is
- C. pull the pin out completely
- D. push the pin back into place

QUESTION 8

Which of the following is NOT a reason for rejecting a hand grenade?

- A. The safety ring is cracked.
- B. The lever is broken.
- C. The grenade is dirty.
- D. The grenade has been eaten through by rust.

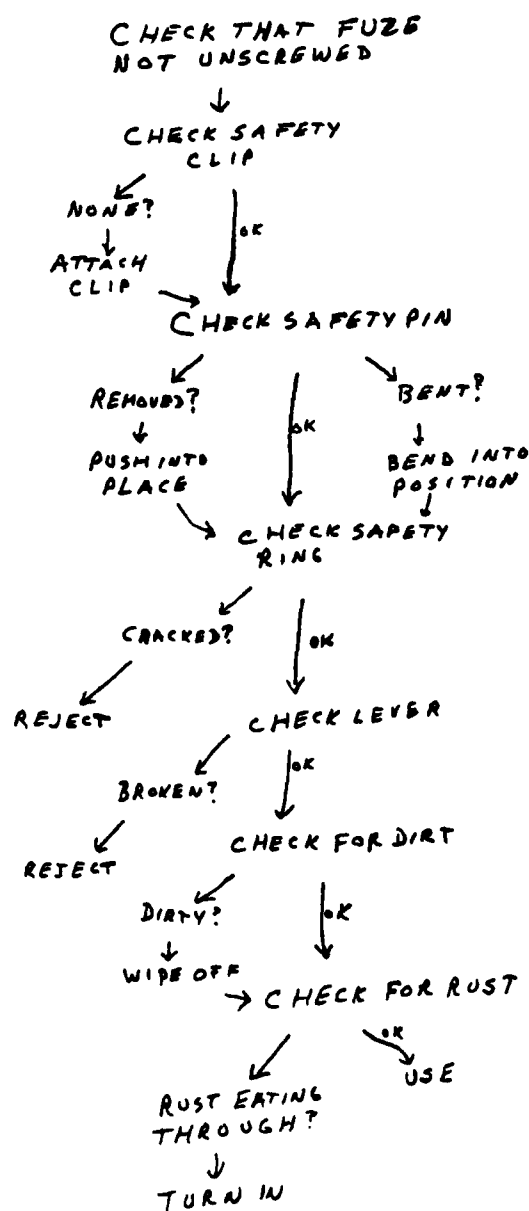
Turn the page to check your answers.

If the pin on a grenade is partially removed, you should PUSH THE PIN BACK INTO PLACE.

The GRENADE IS DIRTY is not a reason for rejecting a hand grenade.

If you had answers D and C, that's great; you're all finished.

If you had other choices, study the diagram of the steps involved in checking a grenade. Compare it to your diagram from Exercise 2.



Maybe it sounds like a broken record, but being an active learner can really pay off. Whether you're trying for the EIB, preparing for your SQT, or taking one of the extension courses, practicing the learning strategies that you've tried here will help you. Whatever the goal you set, it does require a lot of work, but it should be well worth the effort!



B
PROBLEM SOLVING
HANDBOOK

PROBLEM SOLVING HANDBOOK

GOALS

In this handbook, here's what you'll be doing:

- (1) you'll be able to identify the keys to organizing problem solving skills;
- (2) you'll be able to use these keys in practice exercises.

MATERIALS

These are the things you'll need to complete this lesson:

- (1) Problem Solving Handbook
- (2) pencil

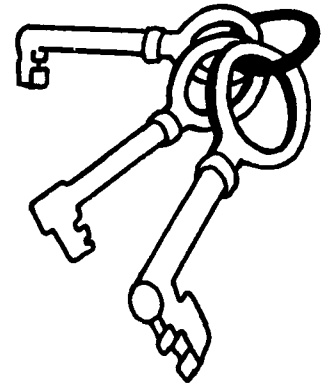
PROBLEM SOLVING
GLOSSARY

alternatives	one of two or more possible choices
anticipate	to think about something before it happens
assumption	something that you suppose is true or take for granted
concealment	hidden; out of sight
debris	(DEE-BREE) the left-over pieces of something broken or exploded
destination	the place that's the end of your trip
detected	uncovered; discovered
efficient	getting to your goal without wasting time, energy, or money
encounter	to meet face to face
humidity	the level of dampness in the air
indicates	shows; suggests; points out
irrelevant	information that doesn't help you to figure out the best thing to do
obvious	easily discovered and understood; very clear
opponent	someone who belongs to the other side; enemy
relevant	information that plays an important part in figuring out the best thing to do
solutions	answers to a problem
suppress	to put down or stop by force
vegetation	plant life such as leaves

PROBLEM SOLVING

On the battlefield soldiers are often called on to act very quickly. Acting quickly doesn't mean acting without thinking, though. You know how important each decision can be on the battlefield, so you want to make the best possible decision in each situation. But, war or life, it's the same; you have a goal and you must figure out how to achieve it by sorting through all the information that you have.

This handbook is designed to teach you the keys you can use when solving problems and making decisions. When you have a problem to solve or a decision to make, there are three questions you should ask yourself:



- (1) What information is important to my decision?
- (2) What alternatives do I have?
- (3) What are the results of these alternatives - positive and negative-going to be?

*
* **KEYS TO ORGANIZING PROBLEM SOLVING SKILLS** *
* * * * *
* **STEP 1: Identify all relevant information.** *
* * * * *
* **STEP 2: Imagine alternative solutions.** *
* * * * *
* **STEP 3: Think through the outcome of each solution.** *
* * * * *

You'll have a chance to practice making decisions using these keys, and as you use them on your own, your decision making skills should improve - which will be useful to you both on and off the job.

 *
 * KEYS TO ORGANIZING PROBLEM SOLVING SKILLS *
 *
 *
 *
 *

STEP 1: Identify all relevant information.

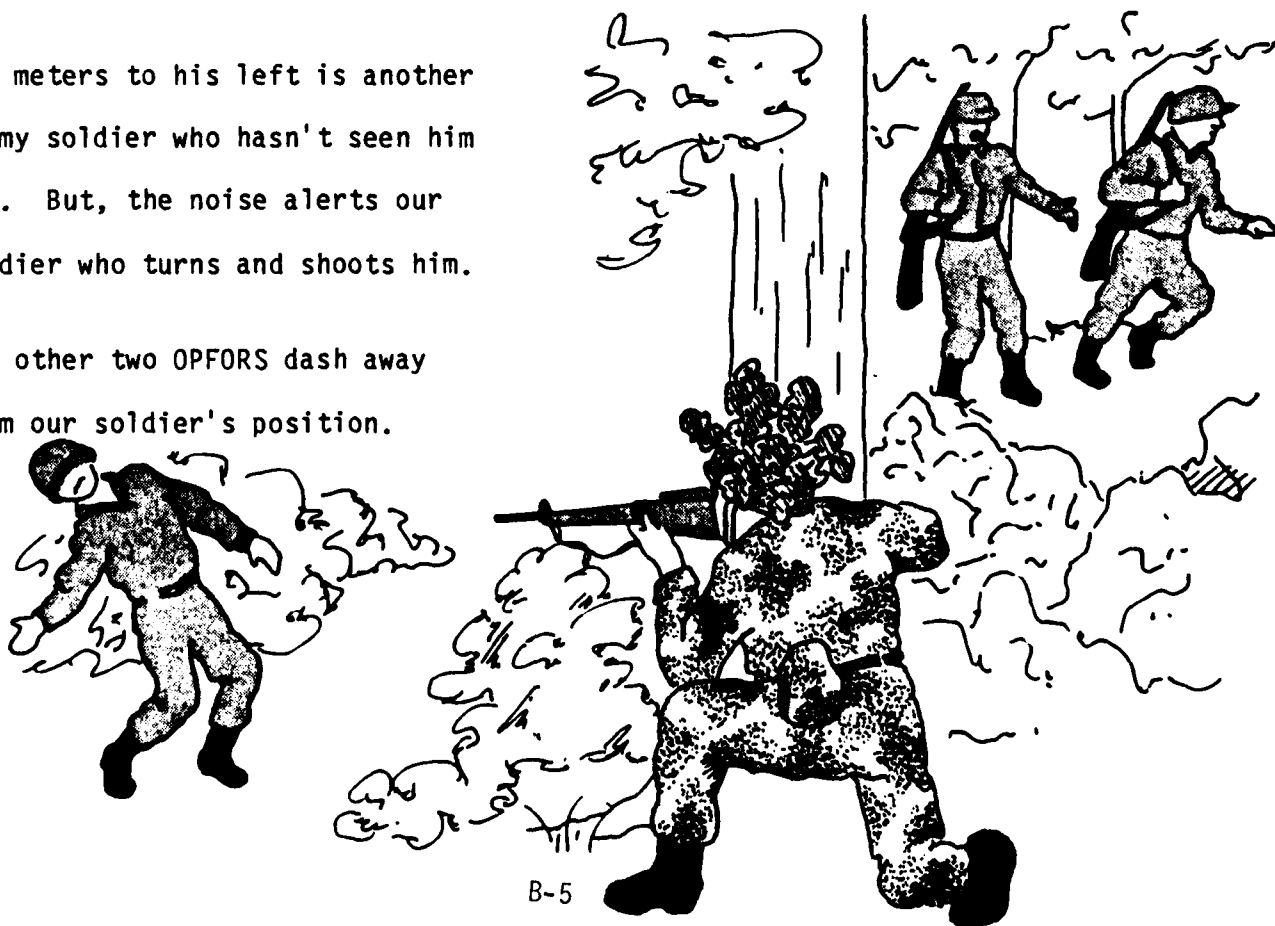
A soldier is moving east in deep brush. He's point man with a column formation 20 to 25 meters between each man. The platoon leader is 100 meters to the rear.

The soldier stops suddenly when he hears a rustling sound. He darts behind a tree, signaling behind him to halt and take cover.

Some distance beyond him are two enemy soldiers who are talking to one another.

Ten meters to his left is another enemy soldier who hasn't seen him yet. But, the noise alerts our soldier who turns and shoots him.

The other two OPFORS dash away from our soldier's position.



How well did you attend to the information in the scene just described?

See if you can answer the following questions. Circle the letter of your answer.

1. In what direction is the platoon moving?

- a. north
- b. south
- c. east
- d. west

2. What is our soldier's position?

- a. pacer
- b. point
- c. compass
- d. rifleman

If you had trouble answering these two questions, go back and read the scene again before you try to answer the remaining question.

3. How many enemy soldiers did our soldier see escaping?

- a. one (1)
- b. two (2)
- c. three (3)
- d. more than three (4+)

Look at the next page to check you answers.

1. The platoon is moving EAST (answer c).
2. Our soldier is the POINT man (answer b).
3. There were TWO enemy soldiers escaping (answer b).

Did you get them all correct? It's really important to keep trying until you think you've gotten every piece of relevant information. Don't stop just because you've identified one or two pieces of information; really question yourself.

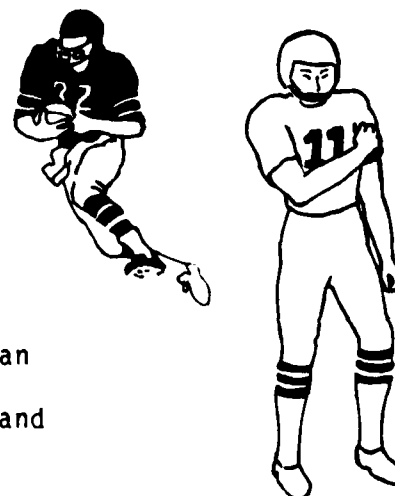
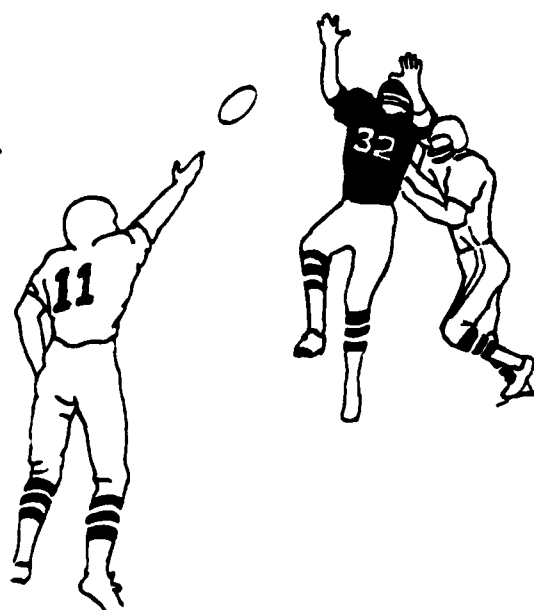
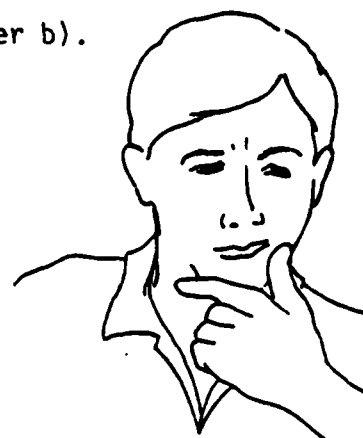
Imagine a football game with your buddies. You have to come up with the game-winning play. What would you have to take into account? How about this:

I want to outsmart the other team.
If I pass-off to the slowest guy on our team, they'll never expect that and we'll win.

That about covers it, right?

Think again. You also need to take into account the abilities of the players on the other team. Otherwise you might send him against a guy who was an all-state defensive back in high school.

Now, wouldn't you think that's relevant information, too? You would if the defensive player ran twice as fast as your guy, intercepted the ball, and ran 70 yards for a touchdown!



Try an exercise on relevant and irrelevant information.

You are the squad leader of a squad that is on a movement to contact mission. The point man returns to the squad and tells you that he has seen OPFOR troops about 65 meters to the front of your present position, advancing in your direction. You are to select temporary/hasty fighting positions. Now in doing this, you

will have a whole lot of information available to you -- some of it very important, some not so important. You have to be able to sort out the important information and keep that in mind when you're making your decisions. Give it a try.



Here are 5 pieces of information. Indicate whether each piece of information is relevant or irrelevant when selecting a hasty fighting position. Of course just about everything is relevant when you're in the field, but indicate which information is most important when selecting a position. Look over all five pieces of information. If you think the information is important or relevant, when you're selecting a hasty fighting position, put a check (✓) on that line under the box. If you feel that the information is not very important or relevant, when you're selecting a temporary fighting position, put a check (✓) on that line under the box.

CONCEALMENT

— important/relevant
— not important/relevant

HUMIDITY

— important/relevant
— not important/relevant

**COLOR OF
YOUR HAIR**

— important/relevant
— not important/relevant

BACKGROUND

— important/relevant
— not important/relevant

FIELD OF FIRE

— important/relevant
— not important/relevant

When you've marked your choices, check the chart on the following page.

SELECT TEMPORARY/HASTY FIGHTING POSITION	
<u>VERY IMPORTANT</u>	<u>LESS IMPORTANT</u>
CONCEALMENT	HUMIDITY
You'd want to choose an area so that something conceals most of your head and body and allows you to observe and fire around the side.	You might be a lot more uncomfortable if the humidity is high but it really won't help in picking a hasty fighting position.
BACKGROUND	COLOR OF YOUR HAIR
A good background allows you to blend in so you're less likely to be seen. This reduces the chance that you'll be detected.	Since you'd be wearing a helmet, the color of your hair really wouldn't have an effect on your choice of a position.
FIELD OF FIRE	
You want to be sure to have a good field of fire when the enemy is sighted and engaged.	

There are usually many pieces of information available to you when you're making a decision. It's necessary to be able to sort out the most important information from the not so important, so that you can make a good decision quickly.

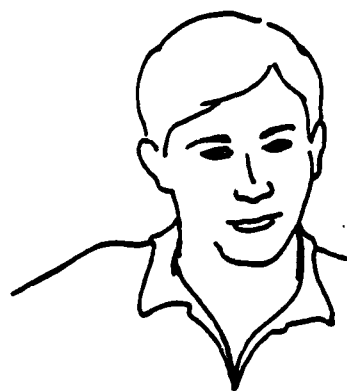
[illegible][illegible][illegible]

Many times when you're trying to solve a problem, one particular solution comes to mind. It may seem to be such an obvious answer that you don't want to think about other possible solutions. Think about a solution for this situation.

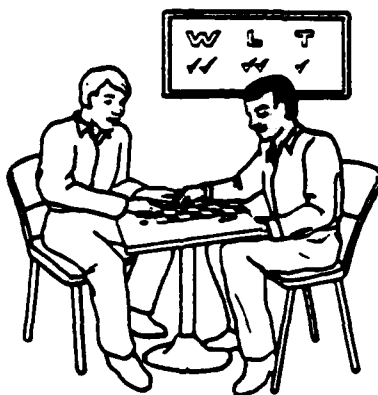
Two guys play 5 games of checkers. Each wins the same number of games.

Is this possible?

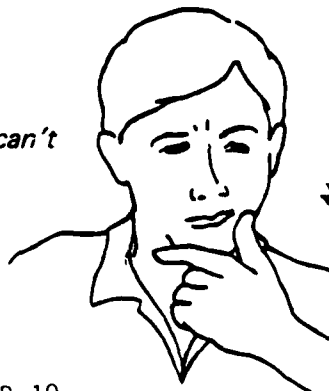
Did your thinking go something like this?



POSSIBLE...



... each won two games
and tied one.



NO MAN! You can't tie in checkers.



IMPOSSIBLE! 5 is an odd number – not evenly divided by 2.

What if they played two different people? The situation never stated that they played each other! You probably just assumed that they did, and because of that, the right answer never would have occurred to you.

There are all sorts of situations where you have to come up with different options and where you might have to be a little creative in the process. You have to keep an open mind to all kinds of solutions, so you don't limit your thinking or get bogged down with one idea.

See if you can come up with an explanation for each of the following situations. These are problems that many people can't answer because they don't keep an open mind. They limit themselves unnecessarily while trying to find solutions.

A father and son are driving home after a fishing trip when they are involved in an accident. They are taken to the hospital where it is found that they both need surgery. The surgeon enters the operating room and says, "I can't operate on this boy. He is my son."

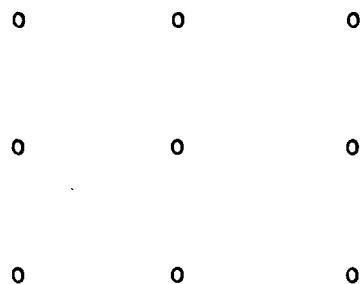
How could this be?

When you have a solution, turn the page.

Did it occur to you that the surgeon might be the boy's mother? This is the best solution, but many people miss it because they **assume** the surgeon has to be a man. But, do you see how making that assumption prevents you from coming up with the best answer?

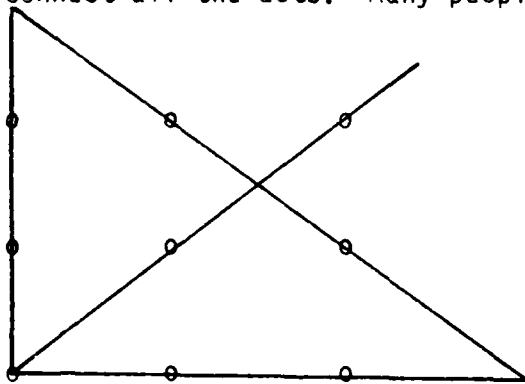
Try another one. Look at this arrangement of nine dots. See if you can connect all of them:

- with only 4 straight lines,
- without lifting your pencil from the paper, and
- without retracting any line.



When you have a solution, go on to the next page.

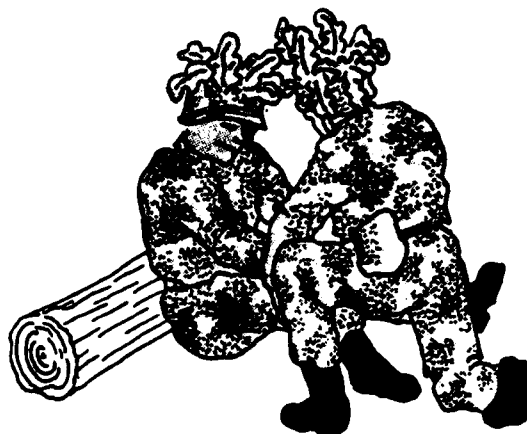
Did you get it? The key to the solution is going outside the box in order to connect all the dots. Many people **assume** that they have to stay within the



limits of the rectangle. But, with that restriction the problem is impossible to solve, and making such an assumption prevents you from coming up with the best solution.

You've probably gotten the point that following an obvious explanation can sometimes prevent you from looking for another, better solution. So, try your hand with a more practical situation.

You and a buddy have become separated from the rest of your unit. He falls and hurts his leg. You think it's a fracture and want to put on a splint, but you don't have the standard materials.



Here's a case where you might have to be creative in thinking of alternatives. You should know the basic steps for splinting a suspected fracture. They are:

- (1) pad the splints,
- (2) place one splint on each side of the arm or leg, and
- (3) tie the splints.

Three things are needed to splint a fracture - splints, pads, and something with which to tie them. Since you don't have any of the standard material, think about **what** each thing is. A splint is a flat solid object - like a board - which, when tied to the limb, keeps it from moving. Take a couple of minutes to write down as many alternatives to a board as you can. Be creative. Write your ideas below.

THINGS THAT MIGHT BE USED AS SPLINTS

When you've written your ideas, compare them to the list on the next page.

Compare your list with this one.

THINGS THAT MIGHT BE USED AS SPLINTS

- pole
- stick
- tree limb
- entrenching tool
- rifle
- rolled magazine or newspaper & cardboard

These are just a few possibilities; perhaps you had even more.

Now do the same thing with padding. What is padding? It is something soft - like cotton - that goes around the splint to prevent too much pressure which might cause further injury. See how many things you can think of that could be used as padding. Write you ideas below.

THINGS THAT MIGHT BE USED FOR PADDING

When you've written down your alternatives for padding, turn the page.

How does your list compare to this one?

THINGS THAT MIGHT BE USED FOR PADDING

- jacket or other clothing
- blanket
- poncho
- shelter half
- leaves or other vegetation

Remember, the third thing you needed was ties. Bandages are used to tie the splint in place. What alternatives might you use if bandages weren't available? Write your ideas below.

THINGS THAT MIGHT BE USED TO TIE SPLINTS

When you've written your alternatives for ties, go on to the next page.

Here are some possibilities.

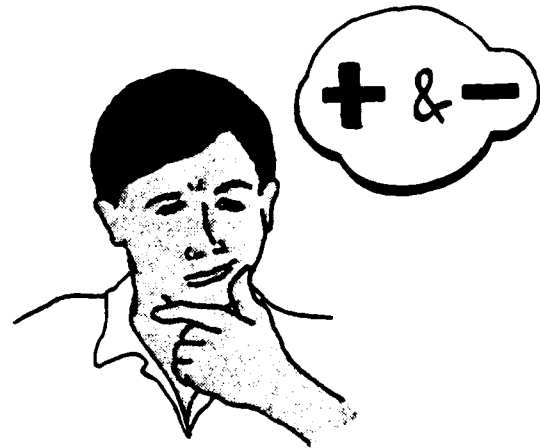
THINGS THAT MIGHT BE USED TO TIE SPLINTS.

- belt
- rifle sling
- towel
- headband
- strips torn from clothing or blanket

You want to keep an open mind when you're thinking of different ways to solve a problem. Making assumptions about the way a problem **must** be solved limits your thinking and often can prevent you from thinking up other solutions. Be creative in imagining alternative solutions.

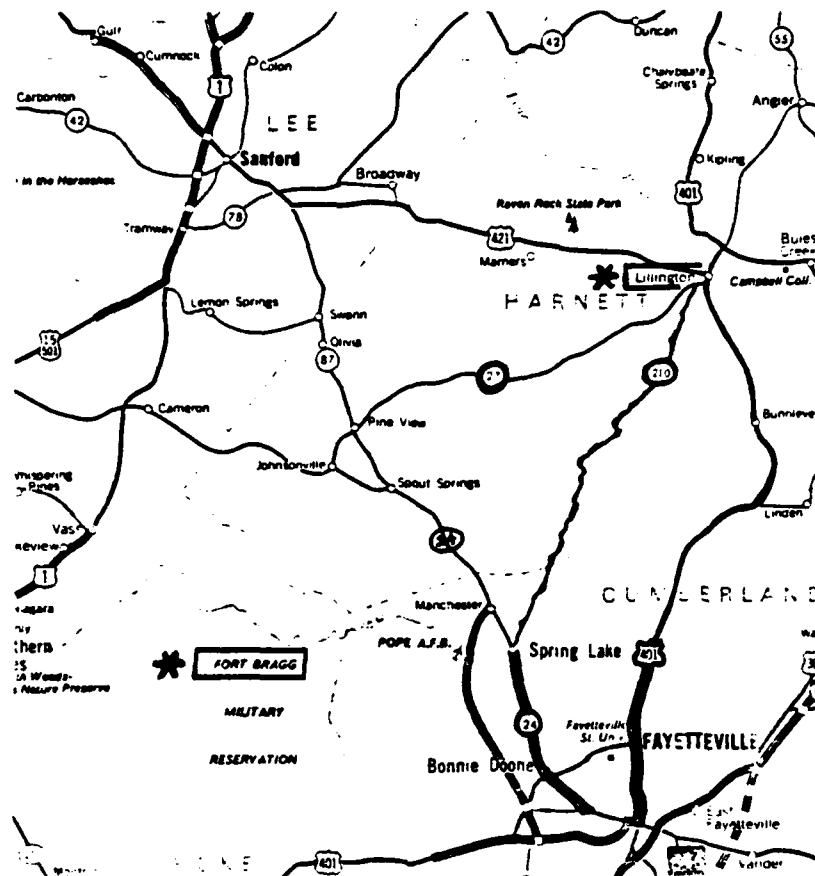
- *****
- ★
- ★ **KEYS TO ORGANIZING PROBLEM SOLVING SKILLS** ★
- ★
- ★ **STEP 1: Identify all relevant information.** ★
- ★
- ★ **STEP 2: Imagine alternative solutions.** ★
- ★
- ★ **STEP 3: Think through the outcome of each solution.** ★

After you've thought of alternatives, you need to think each one through to its end. You want to anticipate the possible results - positive and negative - of each step within the solution. You should carry on a real question-and-answer session in your mind.



For instance, when you're taking a trip to the local shopping center, a trip to visit relatives, or a vacation tour, there are probably alternative ways to reach the destination. People are often most interested in the time it takes to get somewhere. Of course, there are other things that could be considered, for example, the type of transportation, the kind of road or highway, road repairs or construction, the scenery, the time of day, and the cost of the trip. It depends on what was decided in Step 1 - what's relevant.

Follow along on an imaginary trip. A soldier at Ft. Bragg is going to be in a friend's wedding in Lillington, North Carolina. He wants to figure out the best route for getting there. He's identified three routes that will get him to his destination. Now he needs to examine each one for strengths and weaknesses. Take a look at his map on the next page.



He knows that his first step is to get to State Road 24 at Manchester - no matter which of the three routes he decides to take.

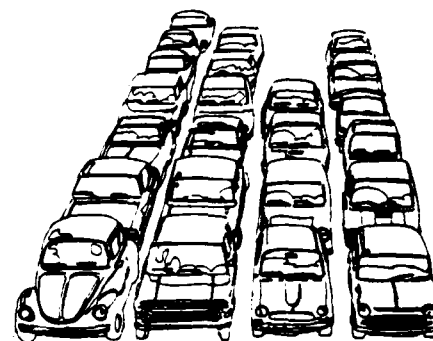
1st ROUTE: State Road 210 offers the most direct route. It's a two-lane connecting road that is very curving with a posted maximum speed limit of 30 miles per hour.

2nd ROUTE: State Road 27 is a longer route than the first one. It is a two-lane secondary road that is moderately curving with a posted maximum speed limit of 45 miles per hour.

3rd ROUTE: U.S. Highway 401 is the longest route. It has a divided four-lane section leaving Fayetteville, and then becomes a two-lane primary road that is not very curving. The posted maximum speed limit is 55 miles per hour.

He has to think through the whole trip and decide what the most important considerations are. The question is, "What are the possible results - positive and negative - of taking each route?"

If time is his most important consideration, or he's going to travel at night, then the third route is probably his best choice. Even though it's the longest, it offers the best road conditions and markings, and has the highest speed limit. Although, it's mostly two-lane, it isn't curving and he'd be able to pass if he got caught behind a slow vehicle.

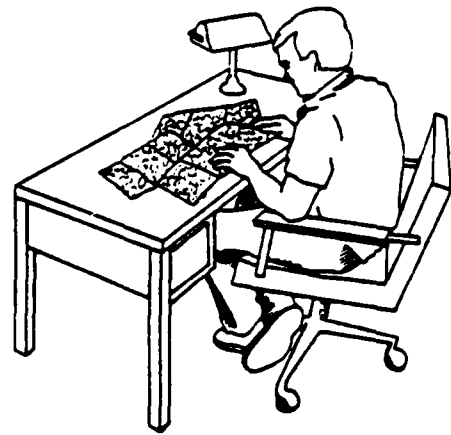


If he's going to travel during the day and is more interested in scenery than time, then he'd probably choose the first route. He could enjoy the countryside since the speed limit is very restricted due to the extremely curving and narrow road conditions. He really couldn't be concerned about the time because there would be little chance for him to pass a slow vehicle.

If he is interested in the scenery and time, his best bet would probably be the second route. It offers better road conditions and markings than the first route, and the speed limit is higher. He would be taking a chance with his time, though, because of this somewhat curving road his opportunities to pass slow vehicles are limited.



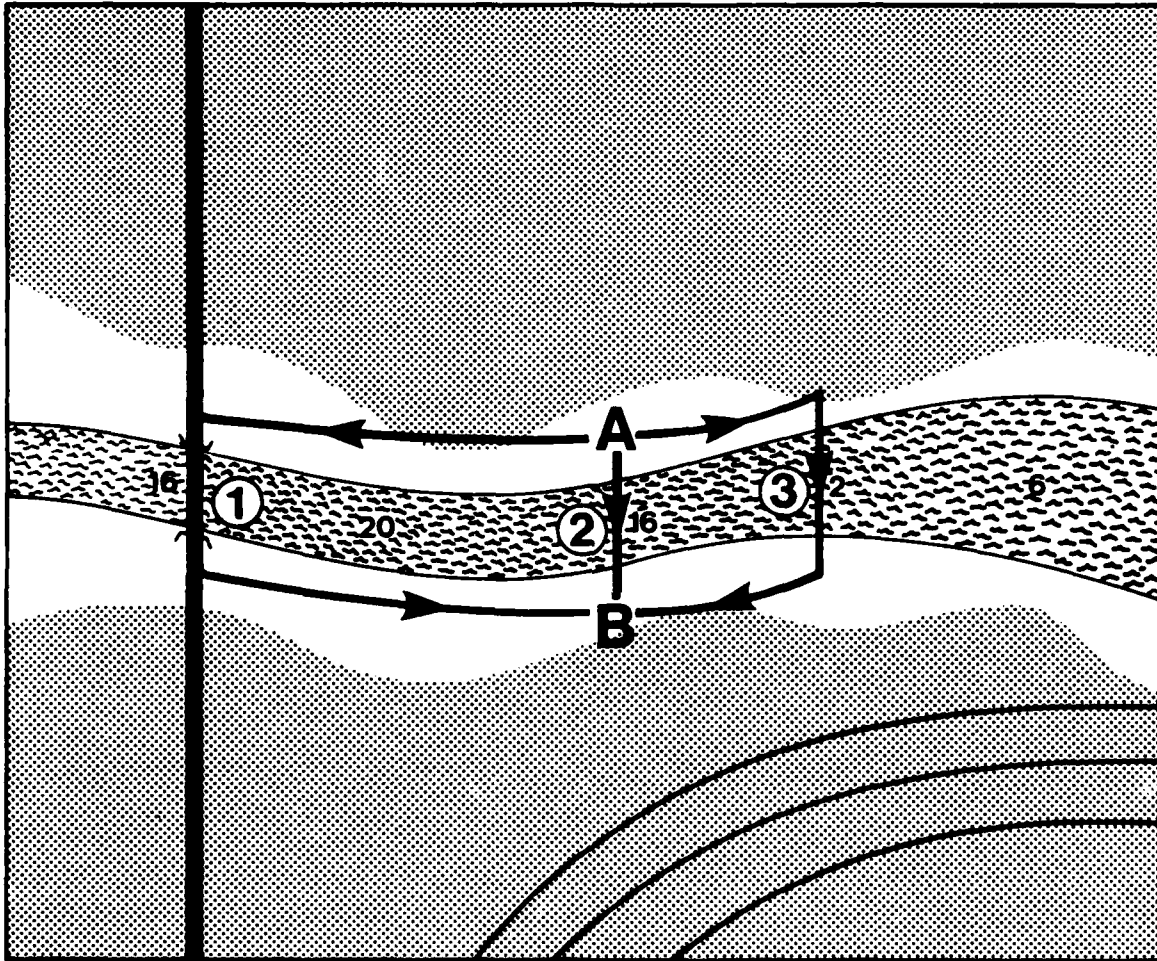
He might consider other things, too - like the condition of his vehicle or the availability of gas stations. He has to examine the positive and negative aspects of each solution in terms of what is important to him, and then make his decision.



See how good you are at thinking through alternatives. On the following pages is a series of maps. Each map will have 3 routes traced on it from Point A to Point B. Look carefully at each route and decide which one would be most efficient in terms of time and effort needed to follow it in non-combat circumstances. Once you've made up your mind, circle your answer.

MAP 1

Points A and B lie on opposite sides of a river. Route 1 crosses the river at a bridge some distance from Point A. Route 2 crosses directly from A at a deep point of the river. Route 3 crosses at a shallow point not far from A.



Think through the alternatives. Look at each route - 1, 2, and 3. Pick the one which would be most efficient in terms of time and effort.

(circle one)

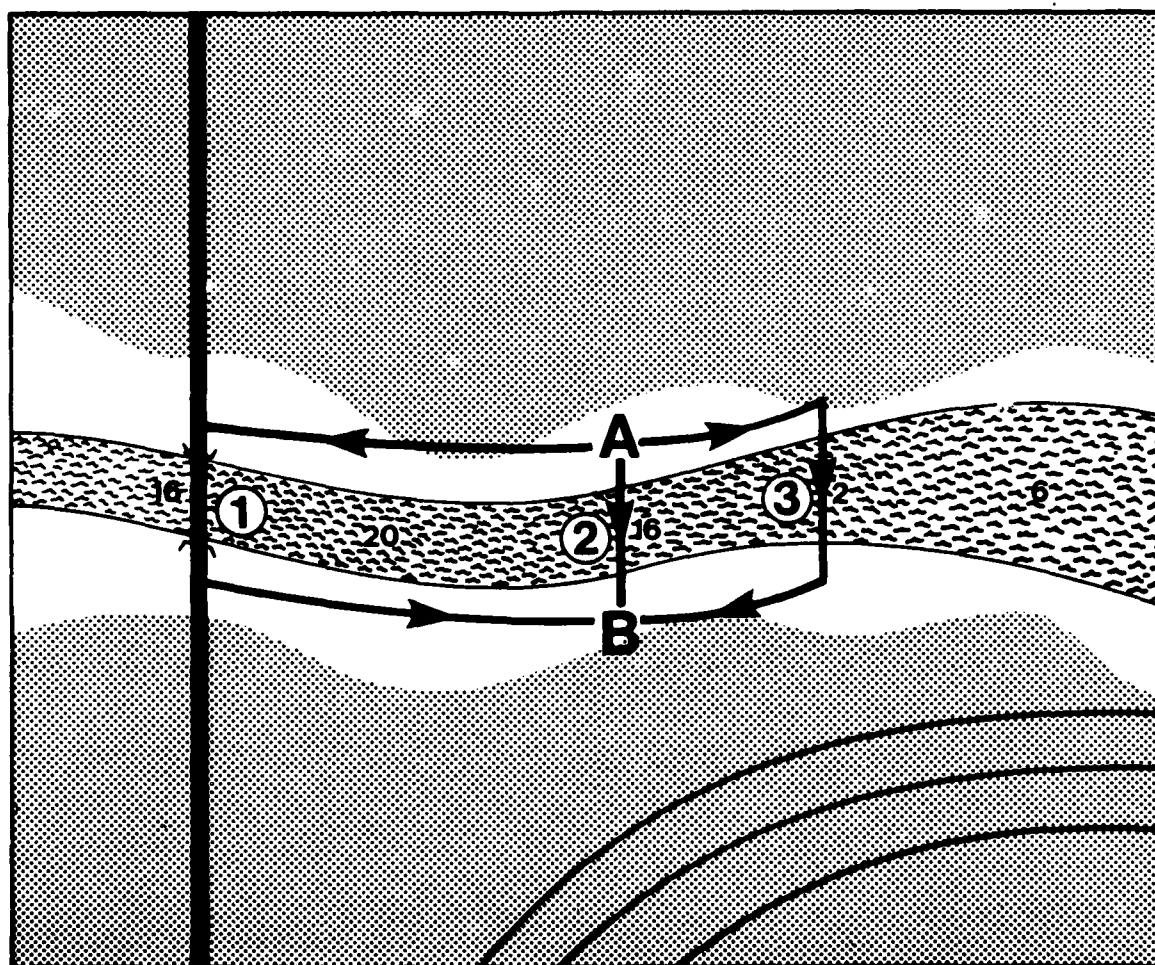
Route 1

Route 2

Route 3

Route 3 is correct. This route avoids the deep water you'd encounter with Route 2, and it's more direct than taking the bridge in Route 1. If you chose Route 3, go on to the next page.

If you chose Routes 1 or 2, look at the map again.



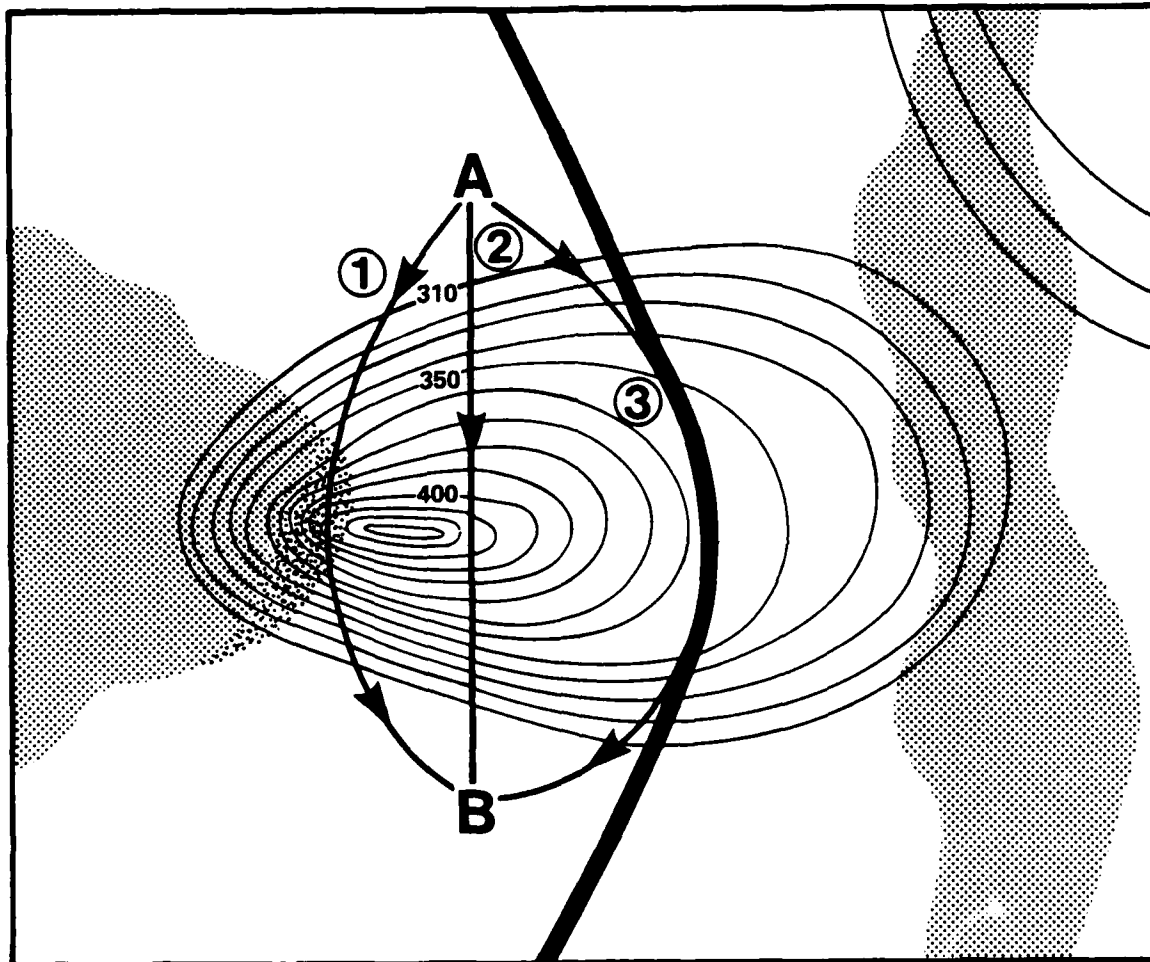
You'd have to go pretty far out of your way to get to the bridge on Route 1. That wouldn't be very efficient in terms of your time.

Did you notice the number in the river near Route 2? It indicates the depth of the river. It's obviously too deep to cross there without a boat of some sort.

Try again with the map on the next page.

MAP 2

Points A and B lie on opposite sides of a mountain. Route 1 is somewhat longer than the other two but goes around the mountain through wooded terrain. Route 2 goes up and over the mountain. Route 3 goes on one side of the mountain, but follows a road.



Think through the alternatives. Look carefully at each route - 1, 2, and 3.
Pick the one which would be most efficient in terms of time and effort.

(circle one)

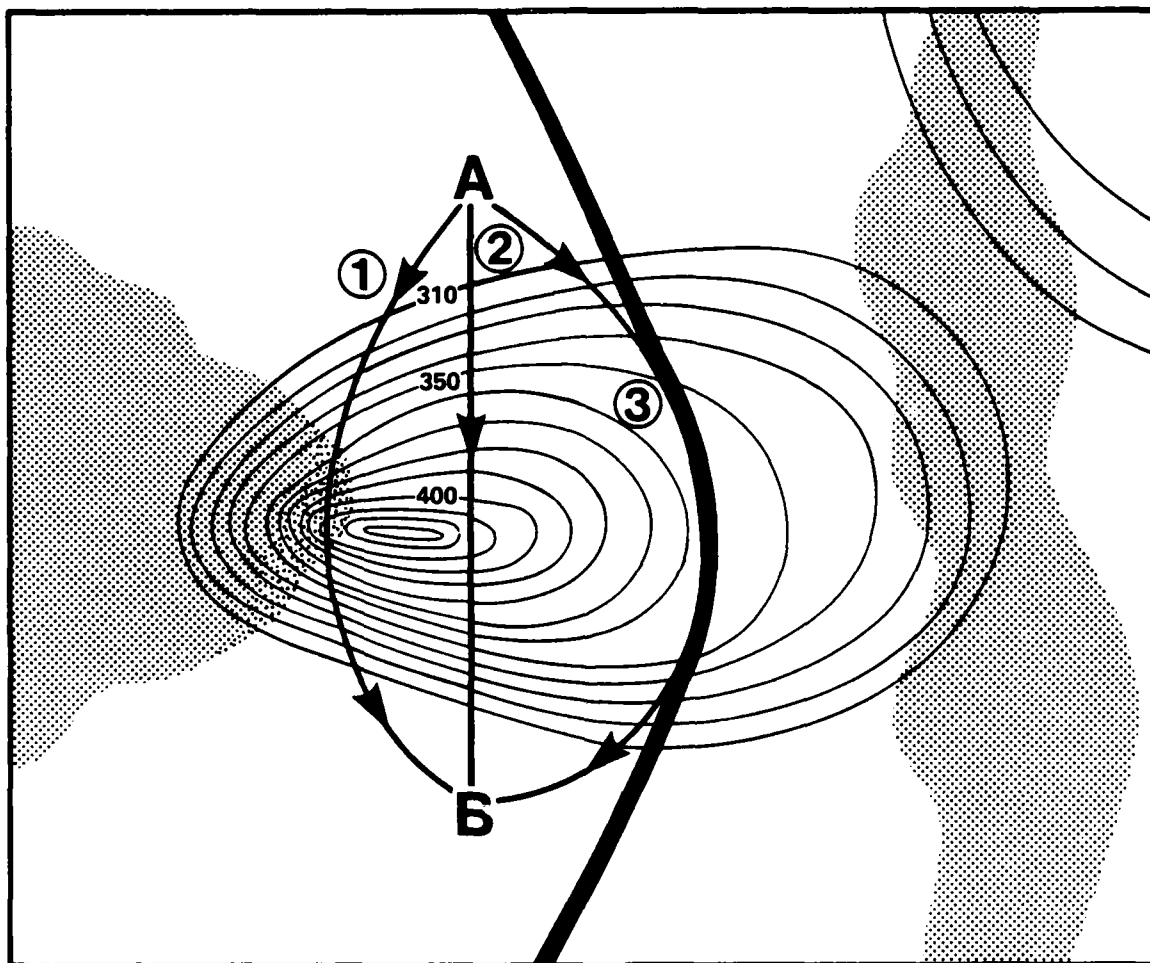
Route 1

Route 2

Route 3

Although Route 3 is fairly long, it avoids the steep mountain and the woods, so you wouldn't have to use a compass. Therefore, this route would probably be the most efficient. If you picked Route 3, go on to the next page.

If you chose Routes 1 or 2, look at the map again.



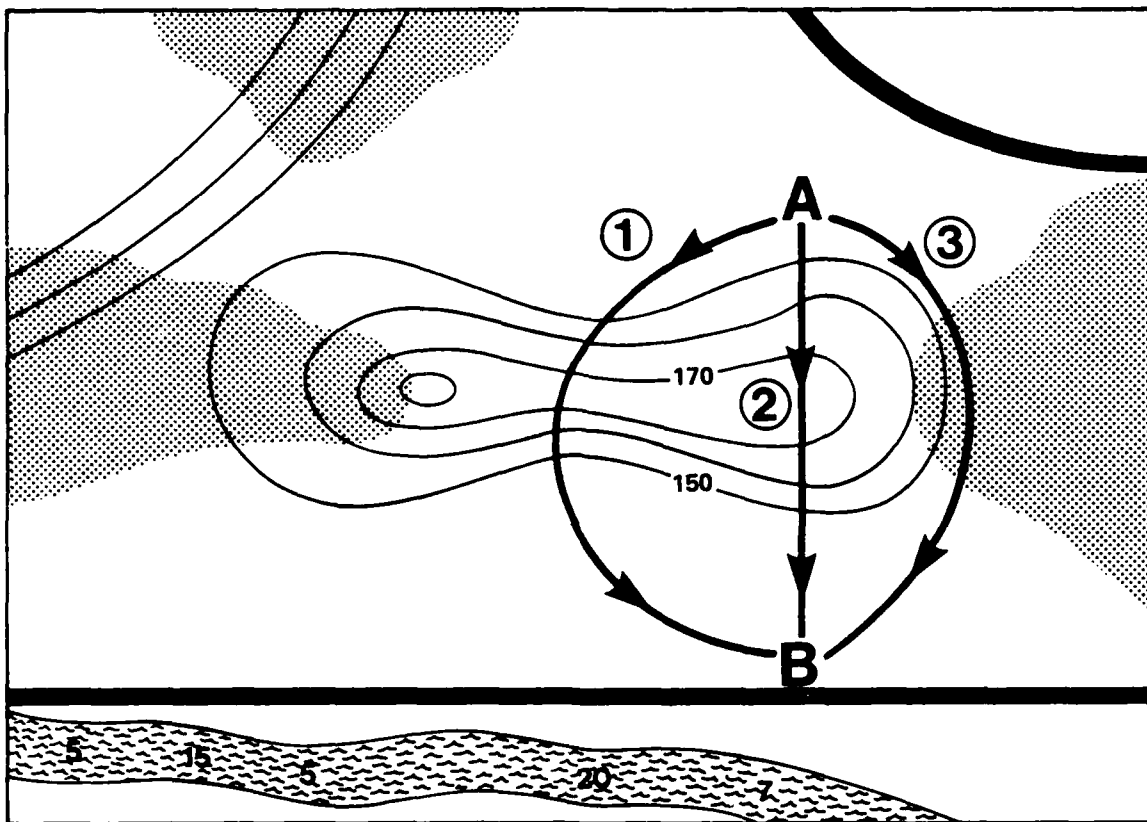
Route 1 involves going through wooded terrain. There's a chance you may get lost, and using a compass will slow you down.

Route 2 is the most direct, but you can see that the mountain is very steep. You'd lose a lot of time and would have to be a pretty good mountain climber to follow this route.

Go on to the map on the next page.

MAP 3

Points A and B lie on opposite sides of a hilltop. Route 1 crosses a saddle on one side of the hill. Route 2 crosses directly over the hilltop. Route 3 goes around the hill and involves going through a wooded area.



Think through the alternatives. Look at each route - 1, 2, and 3. Pick the one which would be most efficient in terms of time and effort.

(circle one)

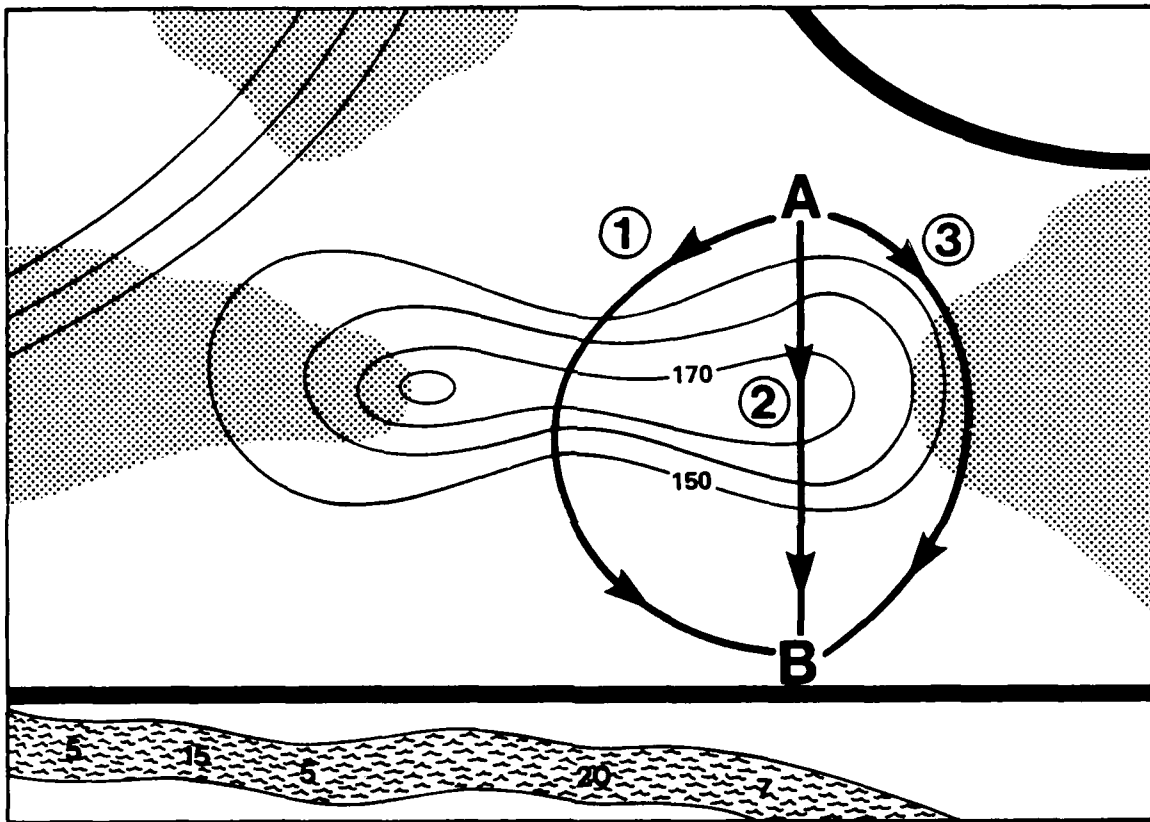
Route 1

Route 2

Route 3

Route 2 is the most direct. The incline at that point is not so great that it should cause any problem in crossing. If you chose Route 2, go on to the next page.

If you picked Routes 1 or 3, look at the map again.



Route 1 crosses the saddle which is at a lower elevation, but it takes you a considerable distance out of your way.

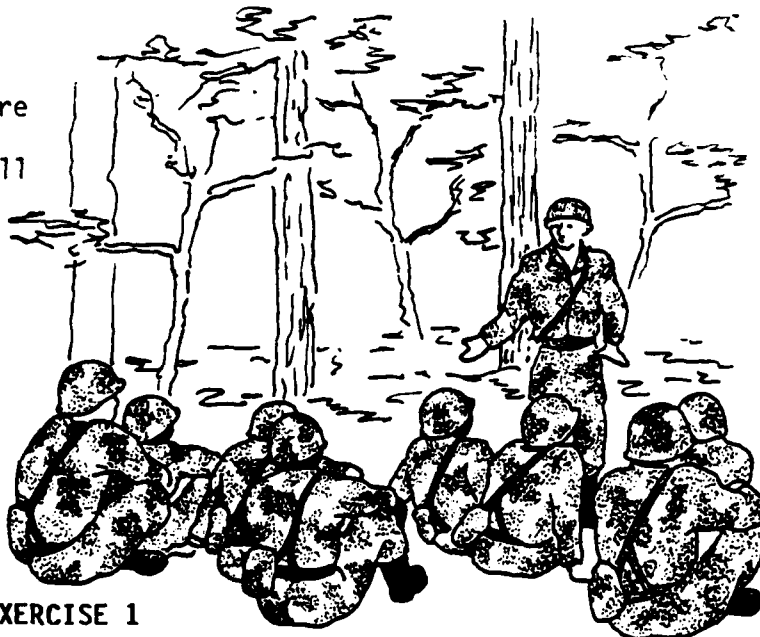
Route 3 also takes you somewhat out of your way. Since the incline of the hill isn't very great, there is no need to go around the hill.

Go on to the next page.

Are you ready for some exercises? The following examples describe tactical situations. Be sure to attend to all the relevant information and try to come up with alternative courses of action. You'll be given alternatives which you should think through, selecting that one which you feel is best.

Your company is assembling for MILES exercises. The First Sergeant is a combat veteran and explains why good decision making is so important.

"Men, I can tell you that the kinds of situations you will face out there today are very much like those you'll see in combat. Making the right decision can mean the difference between life and death. I'm going to give you some examples, and I want you to think of what you would do in these situations."



EXERCISE 1

Our company had been given an order to secure a resupply landing zone about 5 clicks from our assembly area. We were ordered to move out at 0600 hours and have the LZ secured by 1300 hours, at which time the remainder of the battalion, moving to the LZ from the opposite direction, would link up with us. Our company and the remainder of the battalion then would be resupplied by choppers sometime between 14 and 1500 hours.

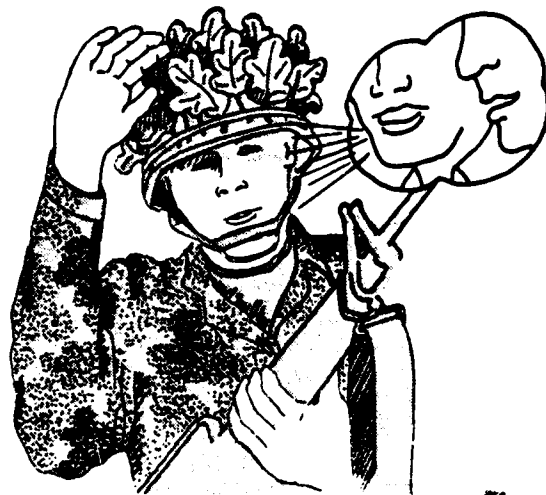


My platoon was ordered to serve as the company's point platoon and my squad as the platoon's point squad. I was assigned the job as point man for the squad.

The area through which we would be moving was heavily wooded. We were going to move in file formation with 10 to 20 meters between each man. We were told that the enemy had been sighted several times in , groups as large as platoons. This meant that the chances of contact were pretty good.

As I was walking slowly through the woods, I heard voices ahead of me. I ran to the nearest trees for cover and signaled the squad to halt. I located the source of the voices, as two enemy soldiers emerged from the woods to the road 30 to 50 meters away.

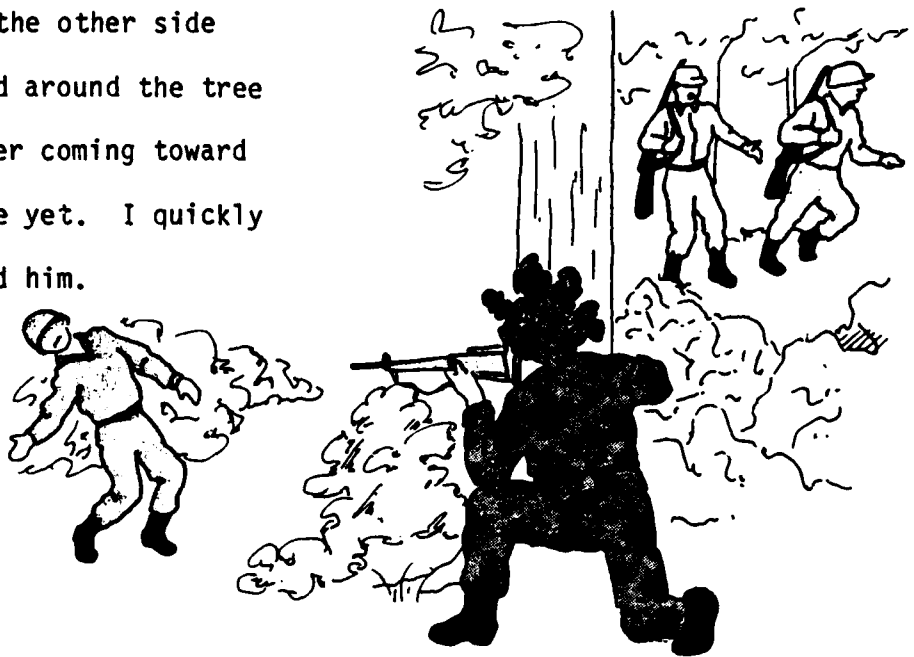
I knew my squad was looking to me for direction and was wondering what was going on. But, I was on my own - nervous and sweating, and I couldn't yell or inform them of what was happening.



I heard a twig break on the other side of the tree. As I peered around the tree there was an enemy soldier coming toward me, but he hadn't seen me yet. I quickly aimed my rifle and killed him.

I had to see how the two soldiers were reacting. They started running.

Damn! What do I do now?



What would you do in this situation?

(circle one)

- a. Use my M16 to try to kill the enemy.
- b. Run after the enemy soldiers.
- c. Continue to move south.
- d. Report to the squad leader what has happened.

You've been given alternative solutions, but remember to:

- attend to relevant information, and
- think through each alternative.

See if you agree with these explanations.

a. Use my M16 to try to kill the enemy.

You don't really have a target, so you'd be wasting ammo if you fired.

You're not in real danger; at least nobody's shooting at you. Firing right now would just let the enemy further pinpoint you and the squad.

FIRE YOUR M16

***** ATTEND TO RELEVANT INFORMATION *****

- no real target
- ammunition valuable
- no one shooting at you

***** THINK THROUGH ALTERNATIVES *****

- firing would pinpoint your position

b. Run after the enemy soldiers.

Better not run after them; you might run into more and get ambushed. And, if your squad follows, there may be more of the enemy out there watching you, and they could see the size of your unit. Besides, if you go after them you'd be going in a different direction and not following through with the original mission.

PURSUE ENEMY SOLDIERS

***** ATTEND TO RELEVANT INFORMATION *****

- don't know what's ahead
- enemy soldiers moving west, you're moving south

***** THINK THROUGH ALTERNATIVES *****

- may be ambushed ahead
- may be observed
- being diverted from mission

c. Continue to move south.

Better not go that direction; that's where they came from. There may be others ahead, and you could walk into an ambush, or to where they're already dug in.

CONTINUE MOVING SOUTH

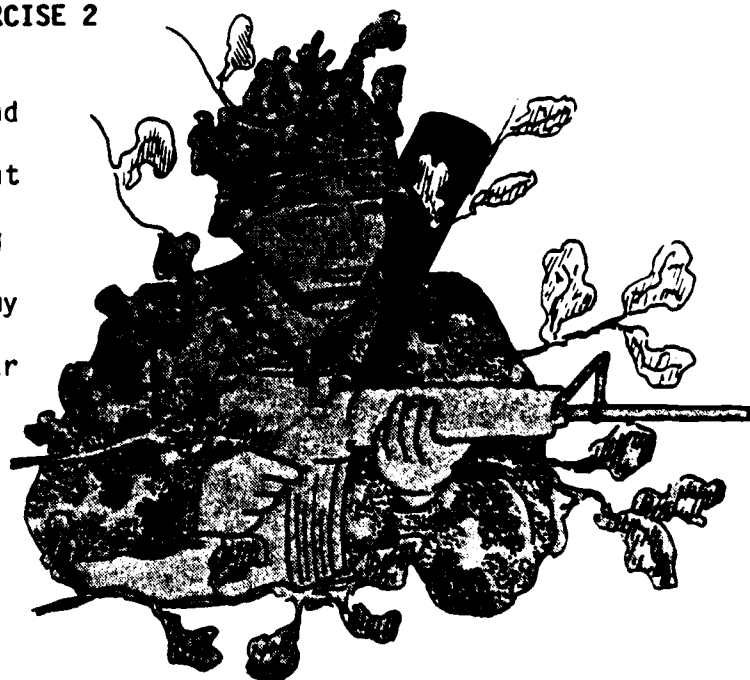
- *** ATTEND TO RELEVANT INFORMATION ***
 - enemy soldiers came from south
- *** THINK THROUGH ALTERNATIVES ***
 - may walk into ambush or prepared enemy defense

d. Report to the squad leader what has happened.

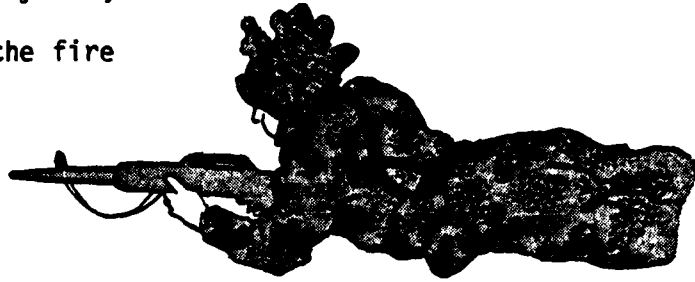
That's the best choice; report back to the squad leader. You aren't exposed to enemy fire right now, and the squad leader will have time to consider what to do.

EXERCISE 2

The decision was made to move on around the danger area. I was still the point for the platoon which was still moving in a file formation. I was carrying my M16 and a LAW. We also had 81mm mortar support.



We were moving just inside a tree line. I stopped at the edge of a tree break and signaled the others to halt. I was told to run across the break to a small group of trees. I was fired on and everyone hit the dirt. I looked around to see what was happening. I saw one guy under good cover about 40 to 50 meters away. I fired my M16, but the sniper returned the fire and I was pinned down. What should I do now?



What would you do in this situation?

(circle one)

- a. Continue firing M16.
- b. Throw a grenade.
- c. Fire M72 LAW.
- d. Request indirect fire support.

Remember the Keys to Organizing Problem Solving Skills. You've been given alternative solutions, but be sure you:

- attend to relevant information, and
- think through each alternative.

Compare your thinking to these explanations.

a. Continue firing M16.

Well, you might suppress the position, but you're not likely to take it out.

You need to get it soon because he might be calling for indirect fire.

CONTINUE FIRING M16

THINK THROUGH ALTERNATIVES

- little chance of taking position out with M16
- need to take out quickly
- chance of enemy arty impacting soon

b. Throw a grenade.

The position is about 50 meters away. It would be a waste trying to hit a small target that far away with a grenade.

THROW GRENADE

ATTEND TO RELEVANT INFORMATION

- bunker 40-50 meters in front
- difficult to throw that far accurately

c. Fire M72 LAW.

That's it. You're within range, and it's a clear, unobstructed shot.

d. Request indirect fire support.

That wouldn't be a good idea; you're much too close. Even if there was a direct hit on the position, you'd risk getting killed or wounded.

CALL FOR INDIRECT FIRE

*** ATTEND TO RELEVANT INFORMATION ***
- enemy position 40-50 meters
in front

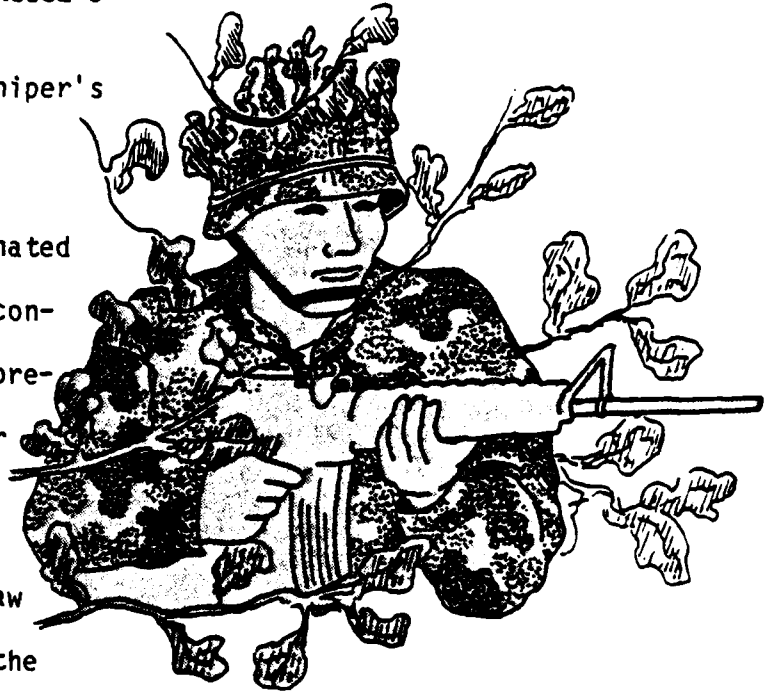
*** THINK THROUGH ALTERNATIVES ***
- mortar fire may impact on
friendly forces

EXERCISE 3

I was really nervous, but I hit the sniper's position with the LAW.

We were still 4 klicks from the designated LZ. I was still the point man as we continued moving. We knew we had to be prepared, so it was important to look for signs of enemy activity or presence.

I was looking left and right when I saw something. I raised my hand to halt the squad. There were enemy ration cans on the ground. As I crouched down and inspected them, a warm syrupy liquid flowed out. My heart was pounding. Then I heard the clacking sound. I frantically looked around to find where the sound was. It was a Claymore, and it was aimed at me! It seemed to be misfiring, but I knew someone had to be close by.



What would you do in this situation?

(circle one)

- a. Yell and retreat.
- b. Hit the dirt.
- c. Turn the Claymore around.
- d. Find and kill the OPFOR soldier.

Read these explanations.

a. Yell and retreat.

That's good. Where you are certainly isn't the place to be! You better get out of there and tell the squad so you can find cover.

b. Hit the dirt.

Since they must have already seen you, if you hit the dirt, you could still get hit by the Claymore, by small arms, or by indirect fire.

HIT THE DIRT		
***	ATTEND TO RELEVANT INFORMATION	***
	- you have been seen by enemy	
***	THINK THROUGH ALTERNATIVES	***
	- you could be killed even while hugging the ground	

c. Turn the Claymore around.

d. Find and kill the OPFOR enemy.

No, they've already spotted you, and they certainly have other weapons. You'd be putting yourself and your squad in more jeopardy.

TURN CLAYMORE AROUND SEEK OUT ENEMY POSITION		
***	ATTEND TO RELEVANT INFORMATION	***
	- you have been detected by the enemy	
	- enemy probably has other weapon systems	
***	THINK THROUGH ALTERNATIVES	***
	- you may get killed if you stand around too long	

EXERCISE 4

Our CO had stressed the importance of time, and we crossed our LD at 0600 sharp. We successfully secured the LZ, and our sister companies, as well as our company, were resupplied.

Later that day higher had ordered our company to establish a defense while our sister companies were attached to another battalion. I was given the job of establishing an OP/LP approximately 50 meters in front of my squad's sector of the defense line. Because of limited radios in the platoon, inoperable TAIs, and lack of commo wire, I was not provided with any means of communicating with the bunker line.

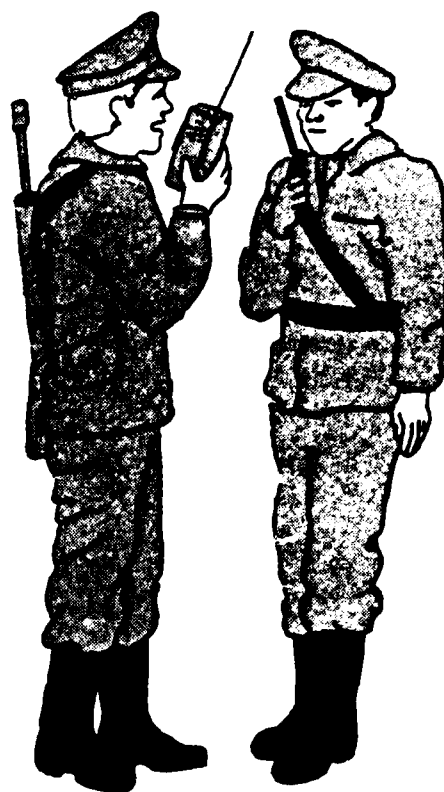
I was told to observe to the front, and when I saw the enemy, I was to withdraw to the bunker line. I was only to see, hear, and report, and to engage only if I had to defend myself.

As I was looking over my field of view, I heard something. On my flank were two OPFOR soldiers! I could tell that one was an officer because he was talking on



the radio. I grabbed my rifle and slid to the side of my protected area in order to face them. I knew I'd never have a better shot at both of them.

But, what should I do?



What would you do in this situation?

(circle one)

- a. Kill the officer.
- b. Withdraw and report.
- c. Wait.
- d. Report by radio what I've seen.

You've been given alternative solutions, but remember to:

- attend to relevant information, and
- think through the alternatives.

Compare your decisions to these explanations.

a. Kill the officer.

It would be really tempting to get an officer, but that would alert the rest of the enemy to where you are. Right now they don't know you're there. Anyway, your mission is to observe and report.

SHOOT THE OFFICER		
***	ATTEND TO RELEVANT INFORMATION - your mission is to observe and report	***
***	THINK THROUGH ALTERNATIVES - firing your M16 will give away your position	***

b. Withdraw and report.

Yes, that's the best thing to do. They haven't seen you, and there's a good chance they won't if you retreat now and complete your mission.

c. Wait.

If you wait a bit, you might pick up some more information. But, they're not very far away, and they'll probably see you if you stay much longer. Waiting doesn't sound like the best idea.

WAIT		
***	ATTEND TO RELEVANT INFORMATION - enemy 40 meters to front	***
***	THINK THROUGH ALTERNATIVES - the longer you wait the greater the chance you'll be detected	***

d. Report by radio what I've seen.

REPORT BY RADIO

*** ATTEND TO RELEVANT INFORMATION ***
- you don't have a radio

EXERCISE 5

After reporting what I'd seen, a buddy and I were in a bunker with bunkers on our left and right. We had a command detonated Claymore 20 meters to the front.

It wasn't long before the enemy moved on our positions. Artillery was falling all around us. Then there was a loud explosion and debris started falling everywhere. As we started to look out the firing portals for the advance, a whole bunch of smoke grenades started to land in front of our bunkers. We knew that the smoke meant they'd be coming any minute.



We were able to kill the first soldiers who burst through the smoke. Then it got really quiet. I was watching for another target when I saw the OPFOR soldier firing his rifle at our position. Then I saw a guy with a grenade, and another one with an RPG. They were all about 40 meters away. Jeez! They weren't where my Claymore could get them.

What should I do now?



What would you do FIRST?

(circle one)

- a. Blow my Claymore to distract the enemy.
- b. Buddy and I each engage a different target.
- c. Both focus on the grenade thrower.
- d. Both focus on the RPG.

You've been given alternative solutions, but remember to:

- attend to relevant information, and
- think through each alternative.

See if you agree with these explanations.

a. Blow my Claymore to distract the enemy

No, better not waste the Claymore with no one to hit. There may be a lot more enemy coming, so you'd better save it.

BLOW YOUR CLAYMORE

- | | | |
|-----|--------------------------------|-----|
| *** | ATTEND TO RELEVANT INFORMATION | *** |
| | - enemy is advancing in force | |
| | - no one is in your kill zone | |
| | - you aren't in immediate | |
| | danger of being overrun | |
| *** | THINK THROUGH ALTERNATIVES | *** |
| | - you may need the Claymore | |
| | later | |

b. Buddy and I each engage a different target.

You could each take a different target, but there are three targets and only two of you. You better pick the one that's the most serious threat and try to get him out of action first.

SELECT DIFFERENT TARGETS

- | | | |
|-----|---------------------------------|-----|
| *** | ATTEND TO RELEVANT INFORMATION | *** |
| | - three different types of | |
| | targets | |
| | - one may be bigger threat than | |
| | others | |
| *** | THINK THROUGH ALTERNATIVES | *** |
| | - may eliminate two targets | |
| | but leave the one that's a | |
| | greater threat | |

c. Both focus on the grenade thrower.

The guy with the grenade would have to have a darn good arm to put you out. You better try something else first.

FOCUS ON GRENADE THROWER

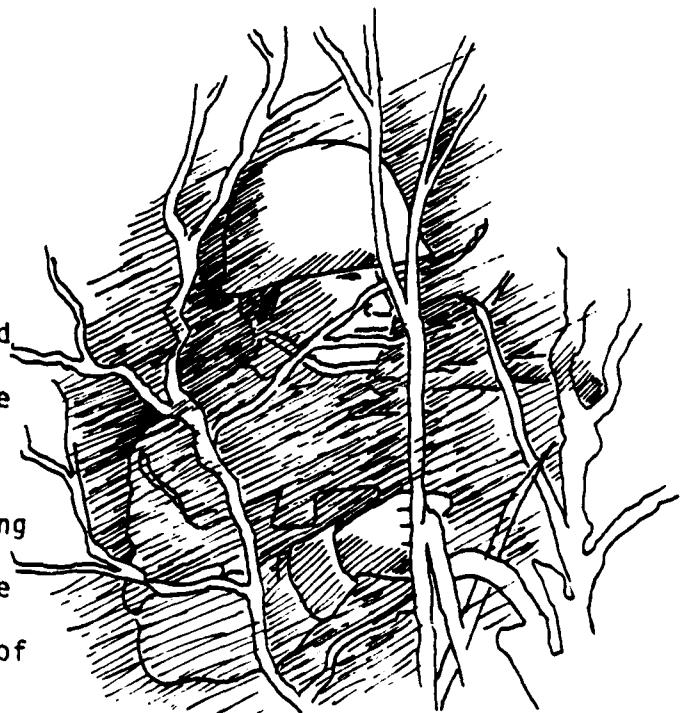
*** ATTEND TO RELEVANT INFORMATION ***
- three different types of targets
- one may be bigger threat than others

d. Both focus on the RPG.

Yeah, that's an anti-armor weapon, and it could take you out in a heart beat! You'd better knock him out first.

EXERCISE 6

The fighting continued, but our positions were pretty good. They retreated after a few furious minutes - except for one guy who slipped behind cover only 10 meters from our bunker. We almost missed seeing him. The position to our right was knocked out. He was just too close for comfort; we had to do something. A grenade exploded just outside our bunker, and we began firing to try to suppress him. A grenade would be our best bet for taking him out, but both of us were out.



Great! What do we do now?

What would you do in this situation?

(circle one)

- a. Sit and wait for something to happen.
- b. Crawl out of my position and assault.
- c. Ask for grenades from other positions.
- d. Continue firing my M16.

You've been given alternative solutions, but remember to:

- attend to relevant information, and
- think through each alternative.

Consider each of these explanations.

a. Sit and wait for something to happen.

Well, you and your buddy can't just sit and wait - they might have more grenades. They also might have better luck on their next throw!

SIT AND WAIT		
***	ATTEND TO RELEVANT INFORMATION	***
	- enemy might have more grenades	
***	THINK THROUGH ALTERNATIVES	***
	- if you wait, the enemy may succeed in knocking out your position	

b. Crawl out of my position and assault.

No, if you leave the bunker you'd only be exposing yourself to their fire, and you'd have little chance of knocking out their position.

ASSAULT ENEMY POSITION		
***	ATTEND TO RELEVANT INFORMATION	***
	- outside of your position, you're exposed	
***	THINK THROUGH ALTERNATIVES	***
	- you may be injured or killed by enemy fire	

c. Ask for grenades from other positions.

Yes, you're the only ones who can take them out. So, you'd better see if you can get a grenade from one of the other bunkers on your sides.

d. Continue firing my M16.

If you continue firing your M16, you're going to suppress them for a little while, but you'll be wasting a lot of ammo and still won't take them out.

FIRE M16

- | | | |
|-----|---------------------------------|-----|
| *** | ATTEND TO RELEVANT INFORMATION | *** |
| | - enemy concealed behind a rise | |
| *** | THINK THROUGH ALTERNATIVES | *** |
| | - little hope of taking out | |
| | enemy | |
| | - may need the ammunition later | |

We got a grenade from the bunker to our left. I pulled the pin, took a deep breath, and prepared to throw. My buddy covered me with M16 fire. I threw, ducked back in, and waited for the blast. Then I heard, "Nice throw, man!"

So, we were able to hold our positions, successfully repelling the enemy's assaults.

It's this kind of decision making - where you gather all the relevant information, think through your alternatives, and select the best one - that will be useful to you both on and off the job. Decision making skills improve with practice, so remember to use the keys that you've practiced in this handbook to organize your thinking. In all kinds of situations you'll be able to sort quickly through all the information available and make a good decision.

C
STUDY SKILLS
HANDBOOK

STUDY SKILLS HANDBOOK

GOALS

Here's what will be happening in this lesson:

- (1) you'll be able to identify the steps for studying for the SQT;
- (2) you'll be able to use these steps on a set of practice exercises;
- (3) you'll be able to apply these steps in preparing for the SQT.

MATERIALS

These are the things you'll need to complete this lesson:

- (1) Study Skills Handbook
- (2) pencil
- (3) highlight marker

**STUDY SKILLS
GLOSSARY**

appendix	information added at the end of a piece of writing
component	a part of something larger
conditions	where you will do a task and what equipment you will need
performance measures	steps used to complete an Army task
sequence	the order you use to do something correctly
strategy	a plan for getting something done
transfer	when you move something from one place to another

STUDY SKILLS

Tests such as the SQT can make a difference in promotion points and pay increases for you. To do well on the SQT you have to make an effort. That means a trade-off in time - using part of your free time to study.

The trouble is, some people try to study, but don't know how to do it. They end up wasting their time, studying the wrong information, or waiting until the last minute and then trying to cram it all in. When they don't score well on the test, they figure "studying" didn't help at all.

What they were doing wasn't really "studying." Studying is a special process, a special skill, that can be learned by anyone who is willing to put forth the effort. Knowing how to study will help you find and remember the important information - what you need to know to pass tests. When you have a strategy for studying, then you get the most out of the time you put into preparing for your test - the SQT.

This handbook is designed to teach you the study skills you need to know in order to do well on tests.

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* * * * *
*
*           STEPS TO STUDYING FOR THE SQT
*
*   STEP 1:  Find out what you need to know.
*
*   STEP 2:  Make a study schedule.
*
*   STEP 3:  Examine each task.
*
*   STEP 4:  Locate information in your manual.
*
*   STEP 5:  Form questions and highlight answers.*
*
*   STEP 6:  Quiz yourself and review.
*
* * * * *

```

★

★ **STEPS TO STUDYING FOR THE SQT** ★

★

★ STEP 1: Find out what you need to know. ★

★

Look over the entire Soldier's Notice.

- Introduction:

describes the purpose of your SQT,
gives hints on how to prepare for it,
lists manuals you'll need.

- Appendix A:

gives a breakdown on each task covered
on the skill, or written component;
provides practice questions and sample
answer sheet.

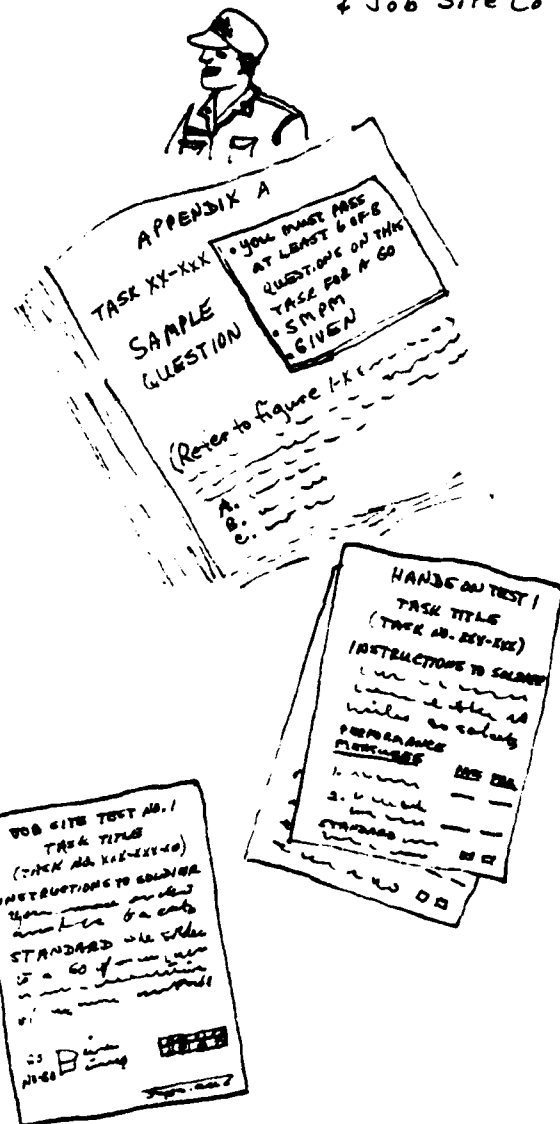
- Appendix B:

describes the hands-on component,
identifies which tasks are covered and
how you'll be tested on them,
lists time limits and performance measures
on which you'll be scored.

- Appendix C:

provides all you need to know about
the job site component.

*PURPOSE. This Common Ta
+ Job Site Co*



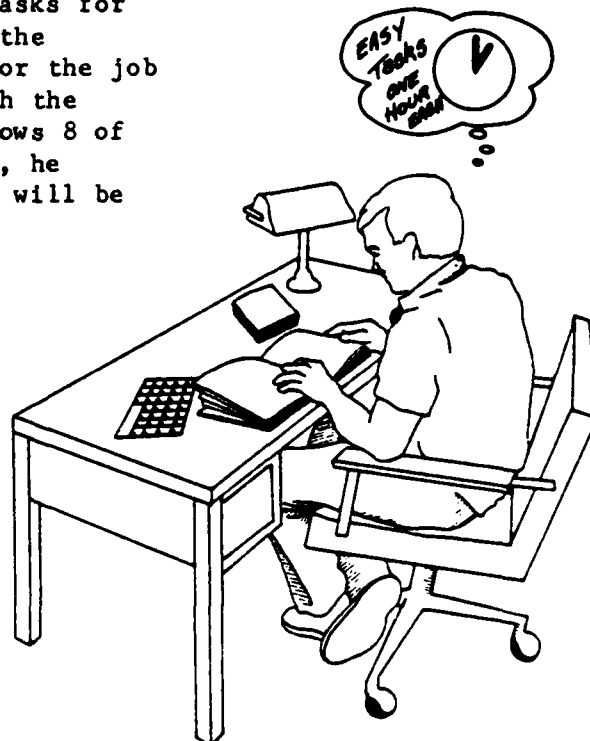
➡ If you take time to look over the entire Soldier's Notice, you'll find out exactly what information is going to be covered on the SQT - and that's the information you're going to need to know really well.

*
* STEPS TO STUDYING FOR THE SQT *
*
* STEP 1: Find out what you need to know. *
*
* STEP 2: Make a study schedule. *
*

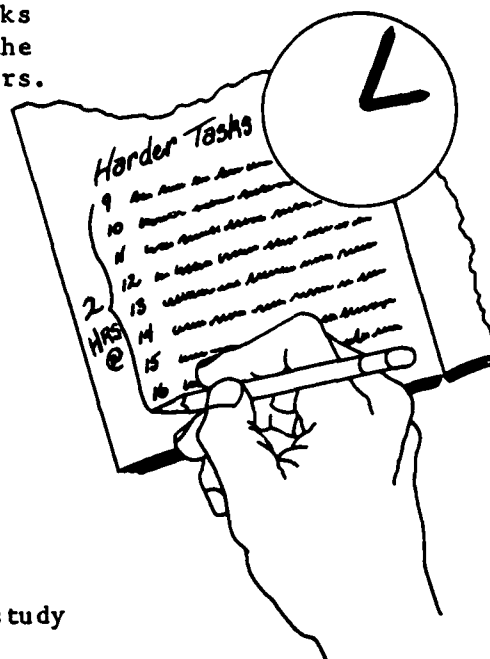
- Figure out how much time you'll need to learn each task;
- Determine how much time you have before your SQT:
- Identify which of your tasks you already know rather well;
- Select the days of the week on which you will study;
- Determine the best conditions for you - early/late, quiet/some noise;
- Set aside review times.

It's easy to make up excuses for not studying, but if you're serious about doing your best on the SQT, settle down and begin in an organized way. Here is an example of setting up a good study schedule:

Joe has 16 tasks on his SQT - 7 tasks for the skill component, 6 tasks for the hands-on component, and 3 tasks for the job site component. He's read through the Soldier's Notice and thinks he knows 8 of the tasks pretty well. For these, he figures studying one hour on each will be enough time to prepare him.



The other 8 tasks he's not too sure about, so he decides to study each of these tasks for two hours. That means he'll study the material he doesn't know well for 16 hours.



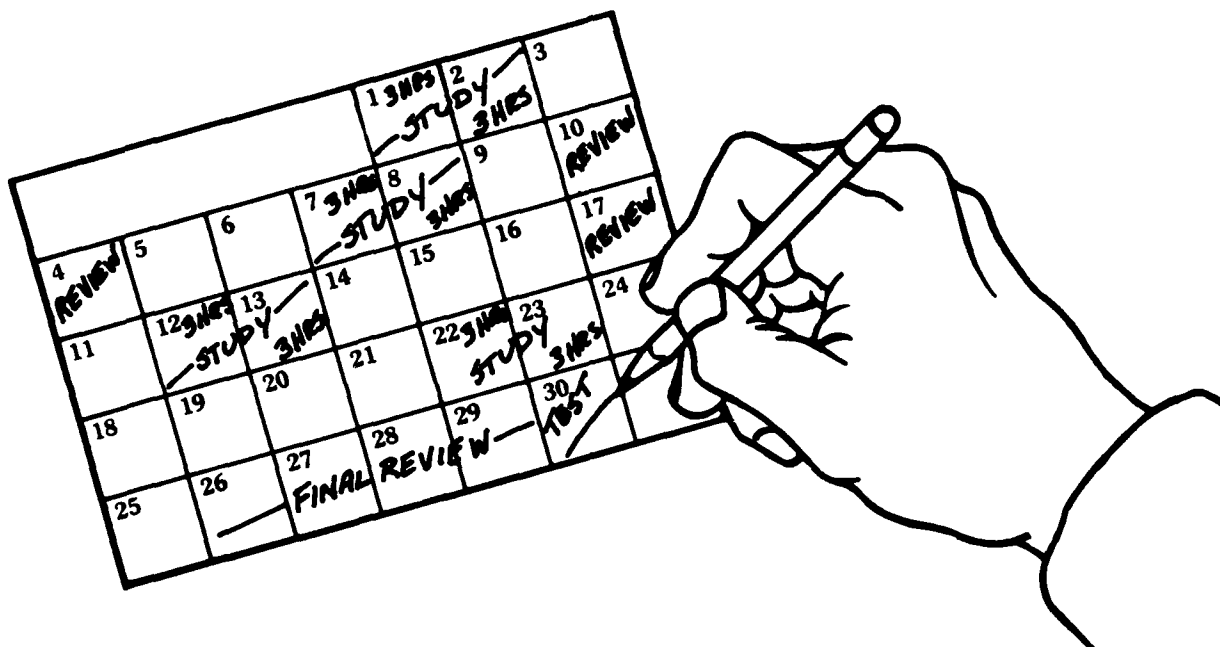
Altogether Joe will devote 24 hours to study for his SQT.

8 Tasks (one hour each) = 8 hrs.

8 Tasks (two hours each) = 16 hrs.

TOTAL STUDY TIME = 24 hrs

Joe has 5 weeks before he takes the SQT. He'll use 4 weeks to study. If he studies 3 hours for two days each week, he'll have time to cover all the material. On the weekends he can review the material that he's covered to that time.



He sets aside the last week for a final review.

Joe has set up a good study schedule.

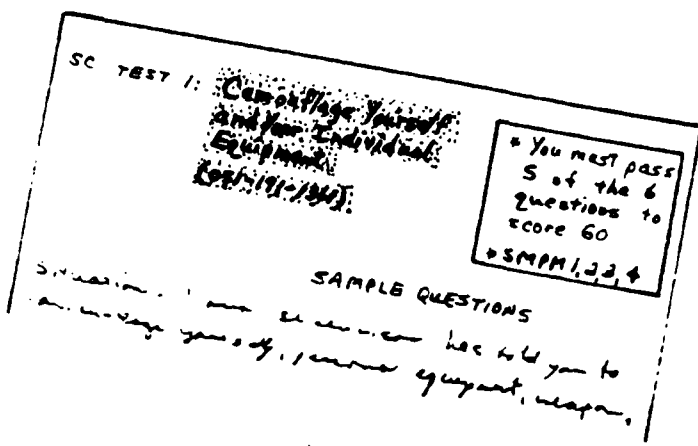
$$4 \text{ (weeks)} \times 2 \text{ (days per week)} \times 3 \text{ (hours per day)} = 24 \text{ (total hours of study)}$$

➡ Once you have your study schedule, try to stick with it. But if you do miss a day or get off schedule, don't panic or give up. Just revise your schedule and keep on going!

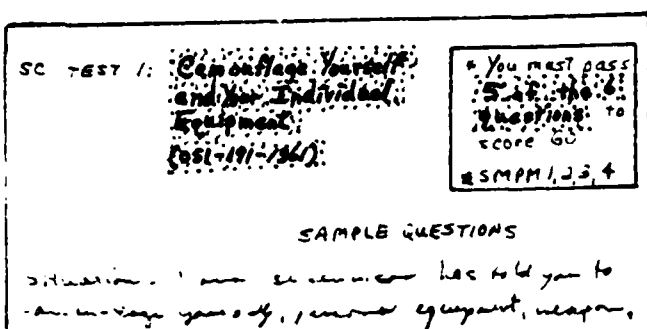
- *****
- STEPS TO STUDYING FOR THE SQT
- STEP 1: Find out what you need to know.
- STEP 2: Make a study schedule.
- STEP 3: Examine each task.
- *****

Take out your Soldier's Notice.

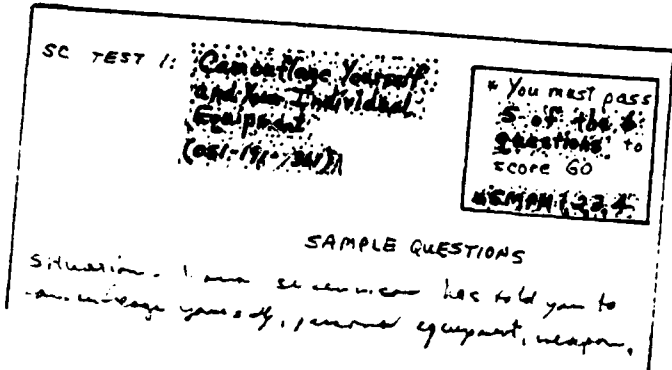
- Highlight each task name and number;



- Highlight the number of questions to score 60;



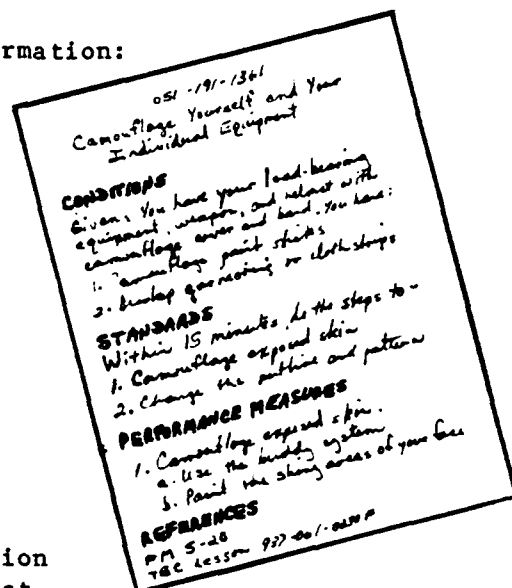
- Highlight the performance measures you need to know.



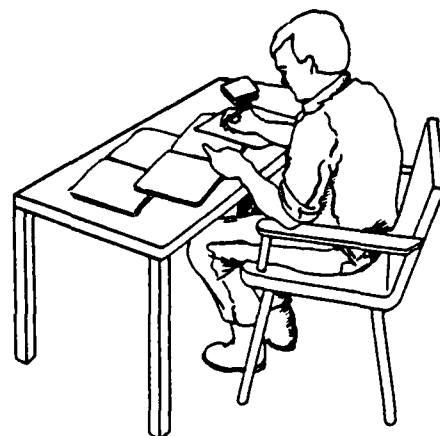
- *****
- ★
- ★ **STEPS TO STUDYING FOR THE SQT** ★
- ★
- ★ STEP 1: Find out what you need to know. ★
- ★
- ★ STEP 2: Make a study schedule. ★
- ★
- ★ STEP 3: Examine each task. ★
- ★
- ★ STEP 4: Locate information in your manual. ★
- ★

The Soldier's Manual gives the following information:

- **CONDITIONS:**
the situation in which a task is performed - where you would be doing it and what equipment you would have.
- **STANDARD:**
what you must do in order to pass.
- **PERFORMANCE MEASURES:**
the correct sequence of steps to follow in order to perform the task.
- **REFERENCES:**
other manuals that give more information on the task you're learning. (The best way is to ask someone - at your Ed Center, the Learning Center, or your supervising officer - where you can find these materials.)



The best thing to do is to look over the material that describes the task. Get a feel for what's there. Next, you should look back to your Soldier's Notice to find out which performance measures you highlighted. These are the steps on which you should focus.



➡ Highlight these same performance measures in your Soldier's Manual. This makes it easier for you to locate the important parts in order to understand and remember them. It also allows you to do all your studying from the Soldier's Manual.

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* * * * *
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```
      STEPS TO STUDYING FOR THE SQT
```

```
STEP 1: Find out what you need to know.
```

```
STEP 2: Make a study schedule.
```

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STEP 3: Examine each task.
```

```
STEP 4: Locate information in your manual.
```

```
STEP 5: Form questions and highlight answers.
```

```
* * * * *
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- # PERFORMANCE MEASURES
- How do I camouflage exposed skin?
1. Camouflage Exposed Skin
- a. Use the buddy system to put on camouflage paint. Check each other.
- b. Paint the shiny areas of your face - use on the shiny areas? forehead, cheekbones, nose, and chin - with a dark color.
- | Camouflage Material | YOUR SKIN COLORS | | SHINE AREA | SHADOW AREA |
|----------------------------|---|------------|----------------------------|------------------------|
| | Light | Dark | FOREHEAD, NOSE, CHEEKBONES | UNDER EYES, NOSE, CHIN |
| LOAM AND LIGHT GREEN STICK | ALL TROOPS USE IN AREAS WITH DARK VEGETATION | USE LOAM | USE LIGHT GREEN STICK | |
| SAND AND LIGHT GREEN STICK | ALL TROOPS USE IN AREAS LACKING DARK VEGETATION | USE SAND | USE SAND | |
| LOAM AND WHITE | ALL TROOPS USE IN SNOW COVERED TERRAIN | USE LOAM | USE WHITE | |
| CHARCOAL OR LAMP BLACK | ALL TROOPS IF CAMOUFLAGE STICKS NOT AVAILABLE | USE | DO NOT USE | |
| LIGHT COLOR MUD | ALL TROOPS IF CAMOUFLAGE STICKS NOT AVAILABLE | DO NOT USE | USE | |
- c. Paint the shadow areas of your face - under eyes, nose, and chin - with light color.

If the first step is to camouflage exposed skin, a good question is, "How do I camouflage exposed skin?" It's that simple!

The manual states, "Use the buddy system to put on camouflage paint. Check each other." When you use your question, try to answer in your own words.

PERFORMANCE MEASURES

1. Camouflage Exposed skin.
 - a. Use the buddy system to put on camouflage paint.
 - b. Paint the shiny areas of your face, forehead, cheekbones, nose, and chin with a dark color.

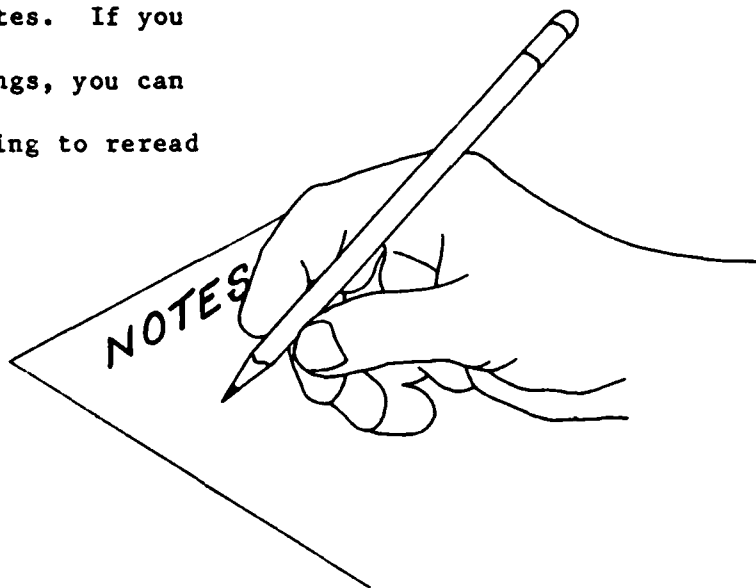
You might reword it like this: "So I use the buddy system and check the other person."

Start with the very general questions, and then keep asking yourself more specific questions to help you remember all the details. If your question is, "What colors do I use on the shiny areas of my face?", your general answer would be, "dark colors."

You need more details. Your specific question might be, "which material is dark and which is light?"

➡ The reason for forming these questions is to make sure that you get the main idea of a section. If you keep the question in your mind while you read, you won't miss any of the important points as you move along.

You may also want to take notes. If you write down the important things, you can study them later without having to reread the whole manual.



➡ You should remember, however, that if you've read the material carefully, and it still isn't clear, ask for help. Don't be embarrassed! After all, there is going to be something you don't know. Try to solve the problem on your own first, and if you can't, go to a supervisor or a friend.



This would be a good time for you to practice what you've learned. Try the sample exercises that are on the following pages.

SAMPLE EXERCISE A

- a. Turn to the next page.
- b. Read performance measure 3.
- c. Turn it into a question and write it in the space provided.
- d. Highlight the important information.
- e. Form more detailed questions and write them down.

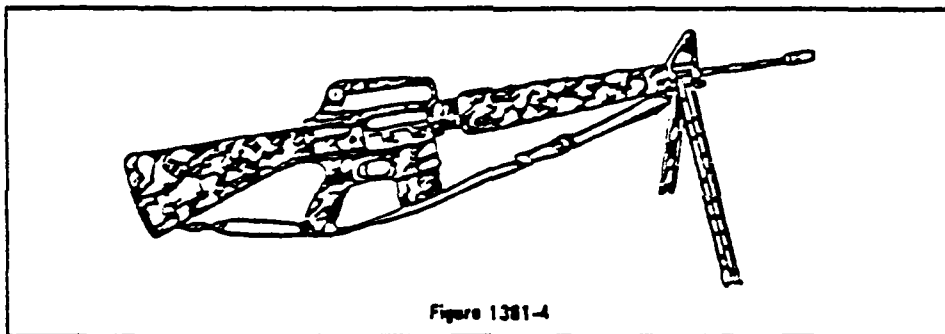
YOUR QUESTION

3. *Camouflage your weapon.*

a. Use one of the following methods to camouflage your weapon:

(1) Change the outline by wrapping the weapon with burlap strips or strips of cloth which match the background of the area.

(2) Paint patterns on the weapon. Cover shiny parts with cloth, paint or mud. See figure 1361-4.



b. Do not put on camouflage which interferes with the firing or aiming of the weapon.

DETAILED QUESTIONS

Turn the page for the suggested answer.

YOUR QUESTION

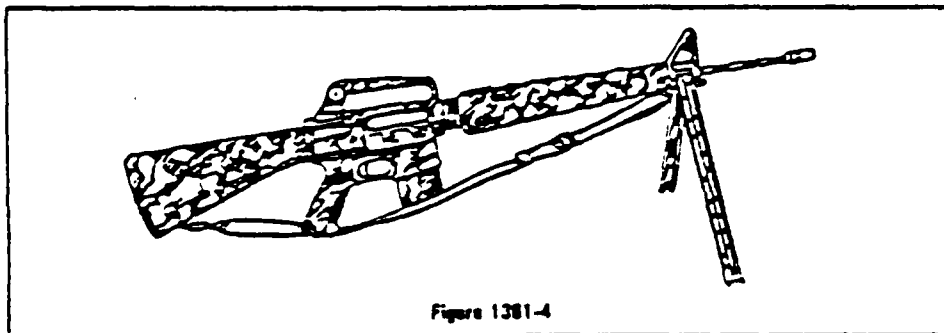
How do I camouflage my weapon?

3. Camouflage your weapon.

a. Use one of the following methods to camouflage your weapon:

(1) Change the outline by wrapping the weapon with burlap strips or strips of cloth which match the background of the area.

(2) Paint patterns on the weapon. Cover shiny parts with cloth, paint or mud. See figure 1361-4.



b. Do not put on camouflage which interferes with the firing or aiming of the weapon.

DETAILED QUESTIONS

What materials do I use to change the outline?
What materials do I use to cover the shiny
parts?

WHEN YOU ARE FINISHED REVIEWING, GO ON TO THE NEXT PAGE.

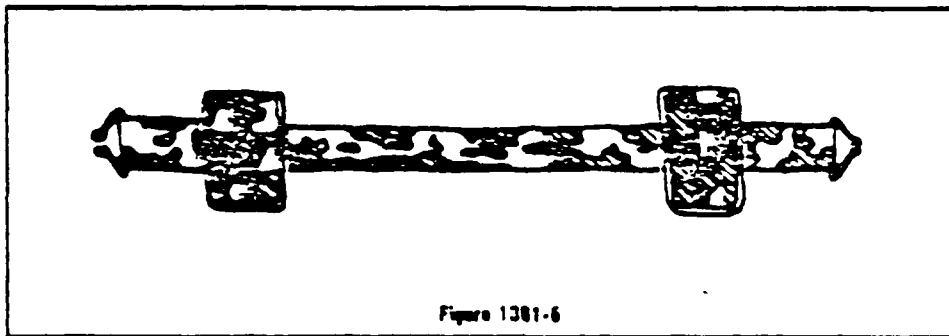
SAMPLE EXERCISE B

- a. Turn to page 17.
- b. Read performance measure 4.
- c. Turn it into a question and write it in the space provided.
- d. Highlight the important information.
- e. Form more detailed questions and write them down.

YOUR QUESTION

4. *Camouflage your uniform and equipment.*

a. Use stick paint and live vegetation to change the look of your uniform and equipment. See figure 1361-5.



b. Stain your uniform. Use mud, grease, crankcase oil, or whatever you can find. (Do not use POL products).

c. Attach bow ties of burlap to your uniform and equipment.

d. Have your buddy check how well you did. You should blend in with the terrain. (See figure 1361-6).

e. When you are in snow-covered terrain, wear a snowsuit; or, make one from a sheet, mattress cover, or other white cloth.

DETAILED QUESTIONS

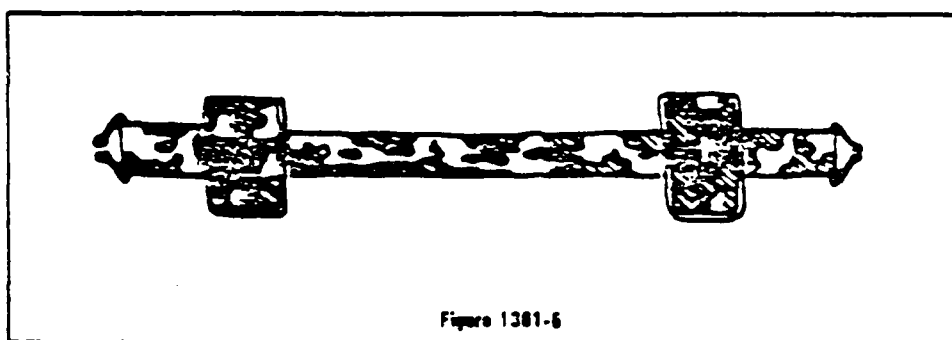
Turn the page for the suggested answer.

YOUR QUESTION

How do I camouflage what I'm wearing?

4. Camouflage your uniform and equipment.

a. Use stick paint and live vegetation to change the look of your uniform and equipment. See figure 1361-5.



b. Stain your uniform. Use mud, grease, crankcase oil, or whatever you can find. (Do not use POL products).

c. Attach bow ties of burlap to your uniform and equipment.

d. Have your buddy check how well you did. You should blend in with the terrain. (See figure 1361-6).

e. When you are in snow-covered terrain, wear a snowsuit; or, make one from a sheet, mattress cover, or other white cloth.

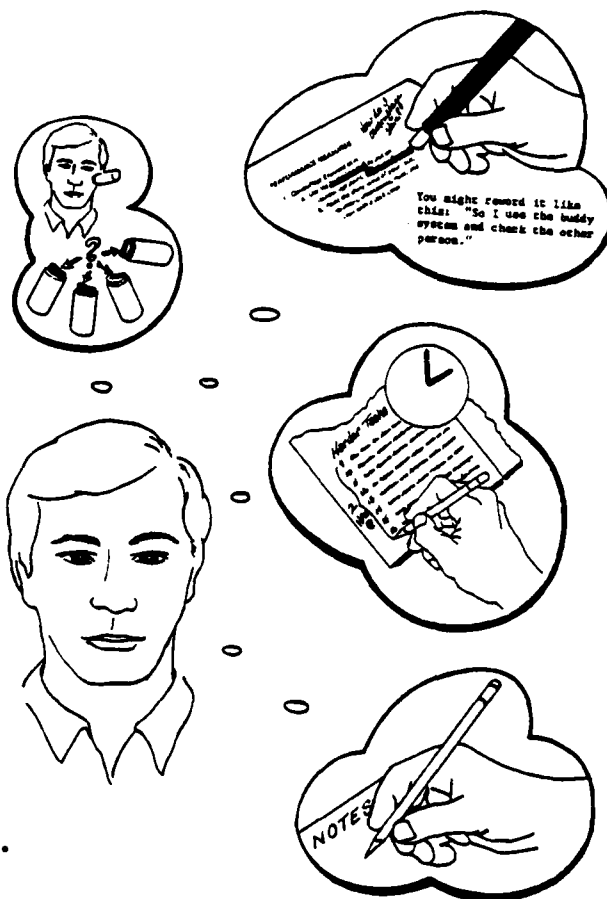
DETAILED QUESTIONS

What do I use to change the look of my uniform & equipment?
What do I use to stain my uniform? How should I look?
What is the final step when camouflaging myself?
What should I do if it's snowing?

WHEN YOU ARE FINISHED REVIEWING, GO ON TO THE NEXT PAGE.

- *****
- ★
- ★ **STEPS TO STUDYING FOR THE SQT** ★
- ★
- ★ STEP 1: Find out what you need to know. ★
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- ★
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- ★
- ★ STEP 5: Form questions and highlight answers.★
- ★
- ★ STEP 6: Quiz yourself and review. ★
- ★

- Ask yourself the same questions you used when you started each task;
- Put answers in your own words - don't try to memorize the answers;
- Go back and check out the information you highlighted if you've forgotten something;
- Review each week's learning;
- Review all your study notes and highlighting the week before your SQT.



➡ Remember, learn what the manual says - even though it might be different from what you've been told. The SQT is based on the manual, so it's important that you learn what the manual says. If you've studied the manual and followed your schedule, you should do fine - and that's a good feeling!

STUDY SKILLS

REVIEW

Before going on, why don't you take one more look at the steps to studying for the SQT:

```

* * * * *
*
*       STEPS TO STUDYING FOR THE SQT
*
* STEP 1: Find out what you need to know.
*
* STEP 2: Make a study schedule.
*
* STEP 3: Examine each task.
*
* STEP 4: Locate information in your manual.
*
* STEP 5: Form questions and highlight answers.*
*
* STEP 6: Quiz yourself and review.
*
* * * * *

```

The next section of Study Skills is a set of exercises designed to take you through the study skills steps you can use to prepare for the SQT. For each exercise there is a given set of instructions. Write your answers on the pages, and then check them with the suggested answers on the page that follows.

NOW GIVE YOUR STUDY SKILLS A TRY!

EXERCISE 1

- a. Turn the page. It is a sample page from a Soldier's Notice.
- b. Highlight task title, task number, number of questions, and performance measures.

NOTE: In this exercise you are identifying the information you need, not trying to answer the question.

SC Test 2: Use Challenge
and Password
(071-331-0801)

*You must pass 3
of the 3 questions
to score GO.

*SMPM 1, 2.

SAMPLE QUESTION

Situation. You are on guard at your defensive position. It is dark.

2. One hour later, you see a group of personnel moving in front of your position; they are close enough to hear you. What action should you take FIRST?

- A. let them pass to keep from giving away your position
- B. advance one man to be recognized
- C. immediately take them under fire
- D. order them to halt

Turn the page for the suggested answer.

SC Test 2: Use Challenge
and Password
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- A. let them pass to keep from giving away your position
- B. advance one man to be recognized
- C. immediately take them under fire
- D. order them to halt

WHEN YOU ARE FINISHED, GO ON TO THE NEXT PAGE.

EXERCISE 2

- a. Read pages 25 and 26. These are the pages from the Soldier's Manual that go with the page from the Soldier's Notice in Exercise 1.
- b. Highlight the performance measures that you need to know.
- c. Turn the section headings into questions and write them in the margin.

071-331-0801

USE CHALLENGE AND PASSWORD

CONDITIONS

Given: The current challenge and password and a defensive position with designated sector of fire. Enemy and friendly personnel may enter your sector; you are to allow friendly personnel to pass only if they respond with correct password, and you are to detain (capture) other personnel.

STANDARD

1. Detect and halt personnel in your sector.
2. Challenge them using correct challenge.
 - a. If given correct password, allow personnel to pass.
 - b. If not given correct password, attempt to detain (capture) personnel.

PERFORMANCE MEASURES

1. *If one man desires to pass:*
 - a. Seeing or hearing someone approach your position, before that person gets close enough to pose a threat, command the person to "Halt!" Use a clear voice, just loud enough to be heard.
 - b. Seeing the stranger halt, keep him covered and, without exposing your position, ask "Who is there?" Again, use a clear voice, just loud enough to be heard so the enemy won't overhear if he's nearby.
 - c. When the stranger identifies himself, such as "Private Willard, messenger," you order him to "Advance to be recognized."
 - d. Maintain your concealed position and keep the stranger covered with your weapon. When the stranger gets within 2 or 3 meters of you, again order him to "Halt!"
 - e. Issue the challenge in a soft voice and wait for the stranger to reply with the correct password. Hearing the correct password, give permission to pass if you have no other reason for doubt. If doubt still exists, demand further identification or ask a question only a friendly person would be able to answer.
2. *If a group desires to pass:*
 - a. The procedure and precautions for a group are almost the same as for one man. Seeing or hearing a group approach, before they are close enough to pose a threat, order them to "Halt!"
 - b. The leader of the group should identify the group, such as "Friendly patrol." Since you don't want the whole group to advance on you at once, order "Advance one man to be recognized."

Turn the page to continue.

- c. When the leader has come forward to be recognized, give him the challenge and get the password in reply.
- d. Once you're satisfied that the leader is friendly, have the rest of the patrol advance one by one and let the leader identify each man.
- e. Disarm and detain any person(s) not able to give the proper password or identify himself to your satisfaction. Then notify your immediate superior.

REFERENCES

FM 21-75

FM 22-6, (chap 9, pages 9-1 and 9-2; app F, pages F-1 thru F-4)

TEC Lesson 935-071-1029-F, Counterintelligence

For Exercise 2, turn the page for the suggested answer.

For Exercise 3, turn to pages 30-31 for the suggested answers.

071-331-0801

USE CHALLENGE AND PASSWORD

CONDITIONS

Given: The current challenge and password and a defensive position with designated sector of fire. Enemy and friendly personnel may enter your sector; you are to allow friendly personnel to pass only if they respond with correct password, and you are to detain (capture) other personnel.

STANDARD

1. Detect and halt personnel in your sector.
2. Challenge them using correct challenge.
 - a. If given correct password, allow personnel to pass.
 - b. If not given correct password, attempt to detain (capture) personnel.

PERFORMANCE MEASURES

1. *If one man desires to pass:*

- a. Seeing or hearing someone approach your position, before that person gets close enough to pose a threat, command the person to "Halt!" Use a clear voice, just loud enough to be heard.
- b. Seeing the stranger halt, keep him covered and, without exposing your position, ask "Who is there?" Again, use a clear voice, just loud enough to be heard so the enemy won't overhear if he's nearby.
- c. When the stranger identifies himself, such as "Private Willard, messenger," you order him to "Advance to be recognized."
- d. Maintain your concealed position and keep the stranger covered with your weapon. When the stranger gets within 2 or 3 meters of you, again order him to "Halt!"
- e. Issue the challenge in a soft voice and wait for the stranger to reply with the correct password. Hearing the correct password, give permission to pass if you have no other reason for doubt. If doubt still exists, demand further identification or ask a question only a friendly person would be able to answer.

2. *If a group desires to pass:*

- a. The procedure and precautions for a group are almost the same as for one man. Seeing or hearing a group approach, before they are close enough to pose a threat, order them to "Halt!"
- b. The leader of the group should identify the group, such as "Friendly patrol." Since you don't want the whole group to advance on you at once, order "Advance one man to be recognized."

What procedure should I follow for 1 man?

What do I do if a group wants to pass?

Turn the page to continue.

- c. When the leader has come forward to be recognized, give him the challenge and get the password in reply.
- d. Once you're satisfied that the leader is friendly, have the rest of the patrol advance one by one and let the leader identify each man.
- e. Disarm and detain any person(s) not able to give the proper password or identify himself to your satisfaction. Then notify your immediate superior.

REFERENCES

FM 21-75

FM 22-6, (chap 9, pages 9-1 and 9-2; app F, pages F-1 thru F-4)

TEC Lesson 935-071-1029-F, Counterintelligence

WHEN YOU ARE FINISHED, GO ON TO THE NEXT PAGE.

EXERCISE 3

- a. Turn back to pages 25 and 26.
 - b. Highlight the information which relates to your questions.
 - c. Quiz yourself by trying to answer your questions.
- //////////

071-331-0801

USE CHALLENGE AND PASSWORD

CONDITIONS

Given: The current challenge and password and a defensive position with designated sector of fire. Enemy and friendly personnel may enter your sector; you are to allow friendly personnel to pass only if they respond with correct password, and you are to detain (capture) other personnel.

STANDARD

1. Detect and halt personnel in your sector.
2. Challenge them using correct challenge.
 - a. If given correct password, allow personnel to pass.
 - b. If not given correct password, attempt to detain (capture) personnel.

PERFORMANCE MEASURES

1. *If one man desires to pass:*
 - a. Seeing or hearing someone approach your position, before that person gets close enough to pose a threat, command the person to "Halt." Use a clear voice, just loud enough to be heard.
 - b. Seeing the stranger halt, keep him covered and, without exposing your position, ask "Who is there?" Again, use a clear voice, just loud enough to be heard so the enemy won't overhear if he's nearby.
 - c. When the stranger identifies himself, such as "Private Willard, messenger," you order him to "Advance to be recognized."
 - d. Maintain your concealed position and keep the stranger covered with your weapon. When the stranger gets within 2 or 3 meters of you, again order him to "Halt."
 - e. Issue the challenge in a soft voice and wait for the stranger to reply with the correct password. Hearing the correct password, give permission to pass if you have no other reason for doubt. If doubt still exists, demand further identification or ask a question only a friendly person would be able to answer.
2. *If a group desires to pass:*
 - a. The procedure and precautions for a group are almost the same as for one man. Seeing or hearing a group approach, before they are close enough to pose a threat, order them to "Halt."
 - b. The leader of the group should identify the group, such as "Friendly patrol." Since you don't want the whole group to advance on you at once, order "Advance one man to be recognized."

Turn the page to continue.

- c. When the leader has come forward to be recognized, give him the challenge and get the password in reply.
- d. Once you're satisfied that the leader is friendly, have the rest of the patrol advance one by one and let the leader identify each man.
- e. Disarm and detain any person(s) not able to give the proper password or identify himself to your satisfaction. Then notify your immediate superior.

REFERENCES

FM 21-75

FM 22-6, (chap 9, pages 9-1 and 9-2; app F, pages F-1 thru F-4)

TEC Lesson 935-071-1029-F, Counterintelligence

WHEN YOU ARE FINISHED, GO ON TO THE NEXT PAGE.

EXERCISE 4

Now let's see how well you learned the material. Here is a question about the information you read. Circle the correct answer, then turn the page to check it.

CONDITION: You are on guard at your defense position. It is dark. One hour later, you see a group of personnel moving in front of your position. They are close enough to hear you.

What action should you take first?

- a. let them pass to keep from giving away your position
- b. advance one man to be recognized
- c. immediately take them under fire
- d. order them to halt

ANSWER 4

Now let's see how well you learned the material. Here is a question about the information you read. Circle the correct answer, then turn the page to check it.

CONDITION: You are on guard at your defense position. It is dark. One hour later, you see a group of personnel moving in front of your position. They are close enough to hear you.

What action should you take first?

- a. let them pass to keep from giving away your position
- b. advance one man to be recognized
- c. immediately take them under fire
- ☒ d. order them to halt

EXERCISE 5

a. Turn to page 35.

b. Highlight the information that you need.

REMEMBER: This is a sample page from the Soldier's Notice. In this exercise you are identifying the information you need, not trying to answer the question.

SC Test 3: Identify Terrain
Features (Natural
and Man-made) on
a Map
(071-329-1001)

*You must pass 2
of the 5 questions
to score GO.

*SMPM 2a, b, c.

*GIVEN: mapsheet.

SAMPLE QUESTION

Situation. (Refer to figure 3-1 to answer question 3.) Your supervisor is conducting a class in map reading. He has given you a map.

3. What terrain feature is located in the area labeled A?

- A. saddle
- B. hilltop
- C. depression
- D. valley
- E. ridge

Turn the page for the suggested answer.

SC Test 3: Identify Terrain
Features (Natural
and Man-made) on
a Map
(071-329-1001)

*You must pass 2
of the 5 questions
to score GO.

*SMPM 2a, b, c.

*GIVEN: mapsheet.

SAMPLE QUESTION

Situation. (Refer to figure 3-1 to answer question 3.) Your supervisor is conducting a class in map reading. He has given you a map.

3. What terrain feature is located in the area labeled A?

- A. saddle
- B. hilltop
- C. depression
- D. valley
- E. ridge

WHEN YOU ARE FINISHED, GO ON TO THE NEXT PAGE.

EXERCISE 6

a. Use pages 38-41.

b. Follow the complete study procedure.

071-329-1001

IDENTIFY TERRAIN FEATURES (NATURAL AND MAN-MADE) ON A MAP

CONDITIONS

Given: A standard 1:50,000 scale military map that includes examples of one or more of each of the natural features identified in 1 through 5 below, and which has examples of the use of colors to identify classes of features as in 6 through 10 below:

- | | |
|---------------|----------|
| 1. Hilltop | 6. Black |
| 2. Ridge | 7. Blue |
| 3. Valley | 8. Green |
| 4. Saddle | 9. Brown |
| 5. Depression | 10. Red |

STANDARDS

Within 3 minutes, identify one of each type terrain feature marked on the map given to you.

PERFORMANCE MEASURES

1. *Colors used to identify a class of features:*

- a. Black - Most cultural or man-made features.
- b. Blue - Water features, such as lakes, rivers, and swamps.
- c. Green - Vegetation, such as woods, orchards, and vineyards.
- d. Brown - All relief features, such as contour lines.
- e. Red - Man-made features classified as to their type or use, such as main roads, built-up areas, and special features.

Note: Occasionally other colors may be used to show special information on the map.

Turn the page to continue.

2. To identify terrain features, refer to figure 1001-1.

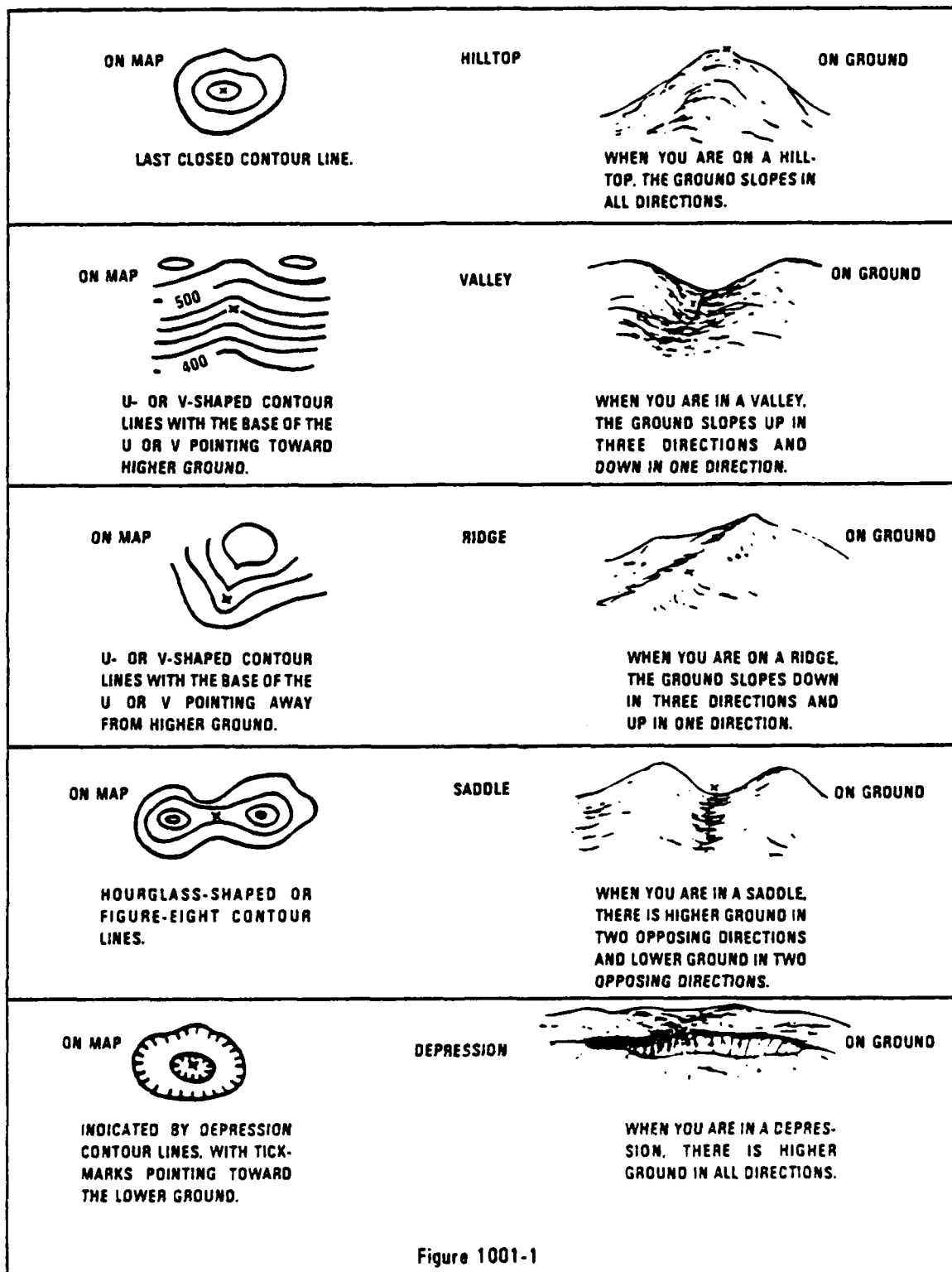
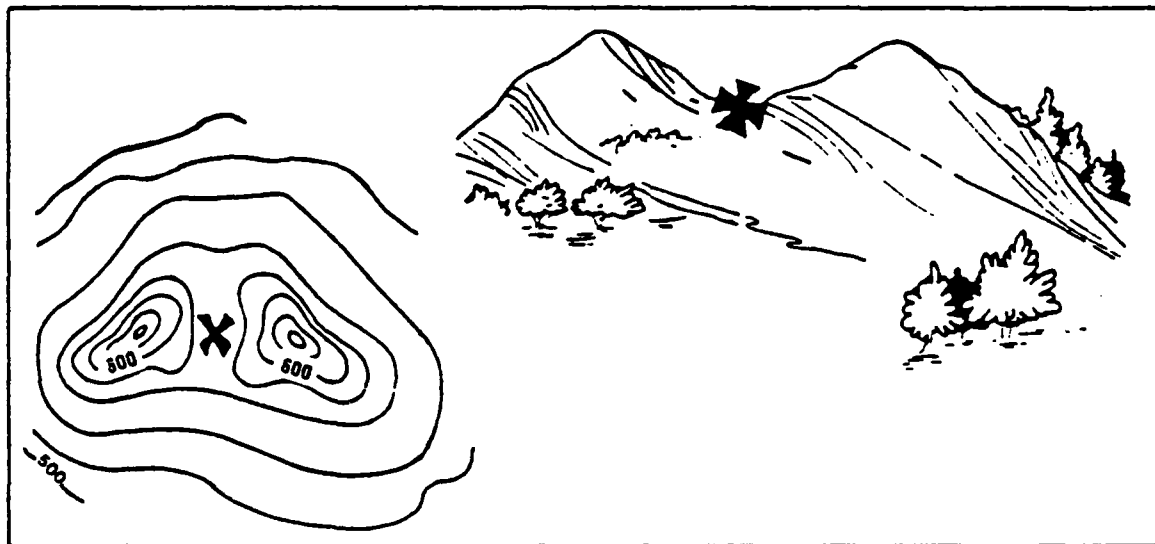


Figure 1001-1

Turn the page to continue.

a. Sometimes, contour lines show two hilltops fairly close together. The lowest terrain between the two hilltops is called a **saddle** (figure 1001-2). Going through a saddle is sometimes the easiest route to get beyond the two hills. Of course, you would not go through a saddle if the enemy was on the hills.



b. Contour lines across a stream always come together in a V. The V points upstream.

The map legend tells you that water is shown in blue on your map. You already know that streams just don't run along the tops of hills. So, looking for streams is a good way to find valleys (figure 1001-3).

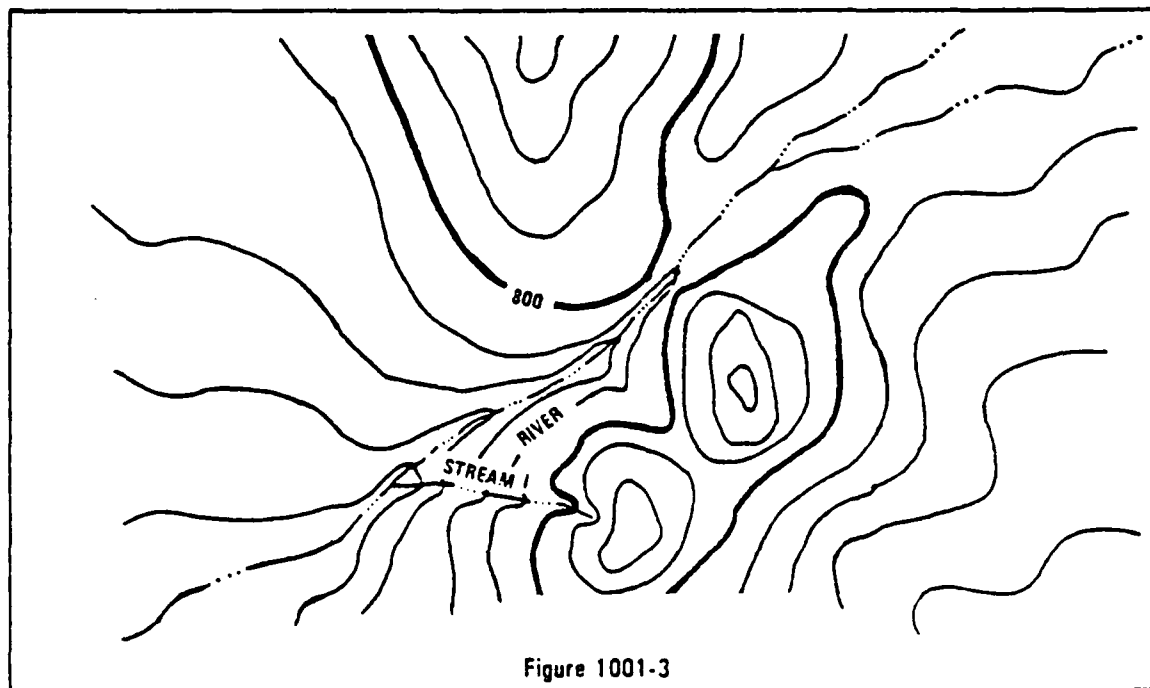
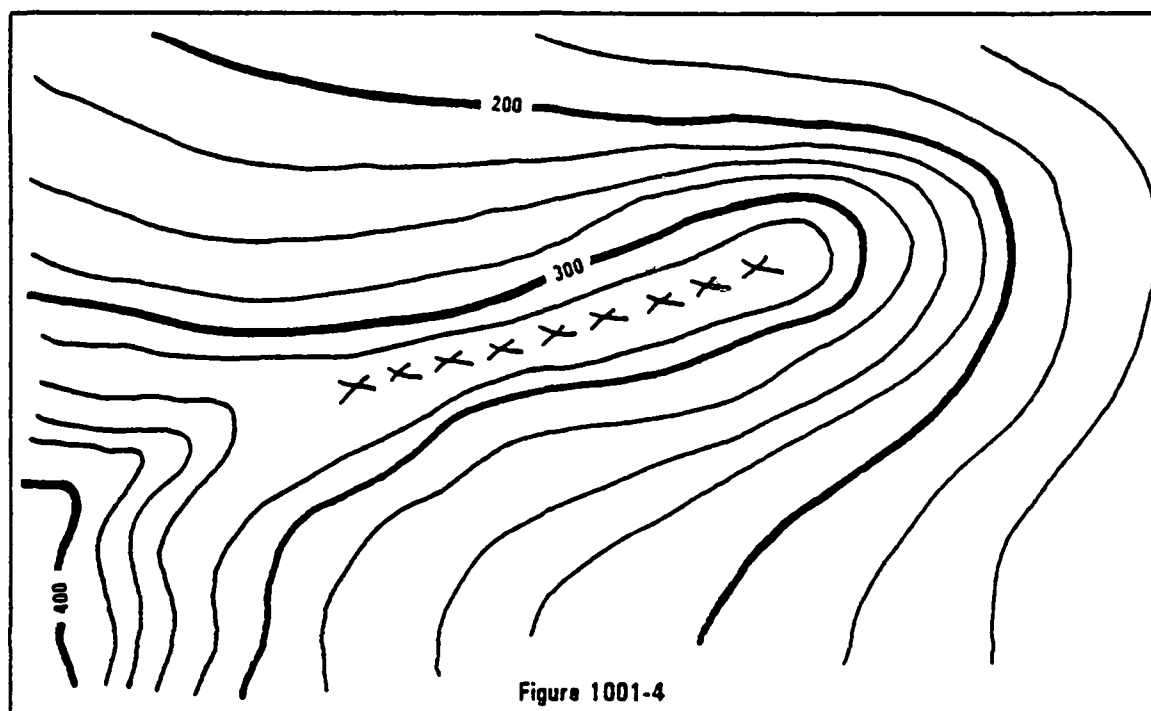


Figure 1001-3

Turn the page to continue.

c. Another terrain feature that you should know about is the ridge (figure 1001-4). A ridge is a fairly long and narrow piece of terrain. If you're standing on a ridge, the ground goes uphill in one direction and downhill in all other directions. Get the picture? (The Us point downhill.)



REFERENCES

FM 21-26, (chap 6, pages 6-1 thru 6-9, para 6-1, 6-2)

TEC Lesson 930-071-0013-F, Introduction to Land Navigation

TEC Lesson 930-071-0016-F, Terrain Features and Symbols

Turn the page for the suggested answer.

071-329-1001

IDENTIFY TERRAIN FEATURES (NATURAL AND MAN-MADE) ON A MAP

CONDITIONS

Given: A standard 1:50,000 scale military map that includes examples of one or more of each of the natural features identified in 1 through 5 below, and which has examples of the use of colors to identify classes of features as in 6 through 10 below:

- | | |
|---------------|----------|
| 1. Hilltop | 6. Black |
| 2. Ridge | 7. Blue |
| 3. Valley | 8. Green |
| 4. Saddle | 9. Brown |
| 5. Depression | 10. Red |

STANDARDS

Within 3 minutes, identify one of each type terrain feature marked on the map given to you.

PERFORMANCE MEASURES

1. *Colors used to identify a class of features:*
 - a. Black - Most cultural or man-made features.
 - b. Blue - Water features, such as lakes, rivers, and swamps.
 - c. Green - Vegetation, such as woods, orchards, and vineyards.
 - d. Brown - All relief features, such as contour lines.
 - e. Red - Man-made features classified as to their type or use, such as main roads, built-up areas, and special features.

Note: Occasionally other colors may be used to show special information on the map.

Turn the page to continue.

2. To identify terrain features, refer to figure 1001-1.

What are the terrain features?

How do I identify them on a map?



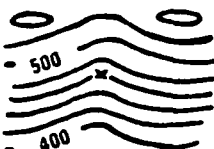






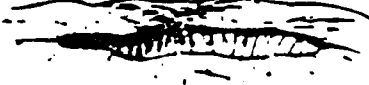
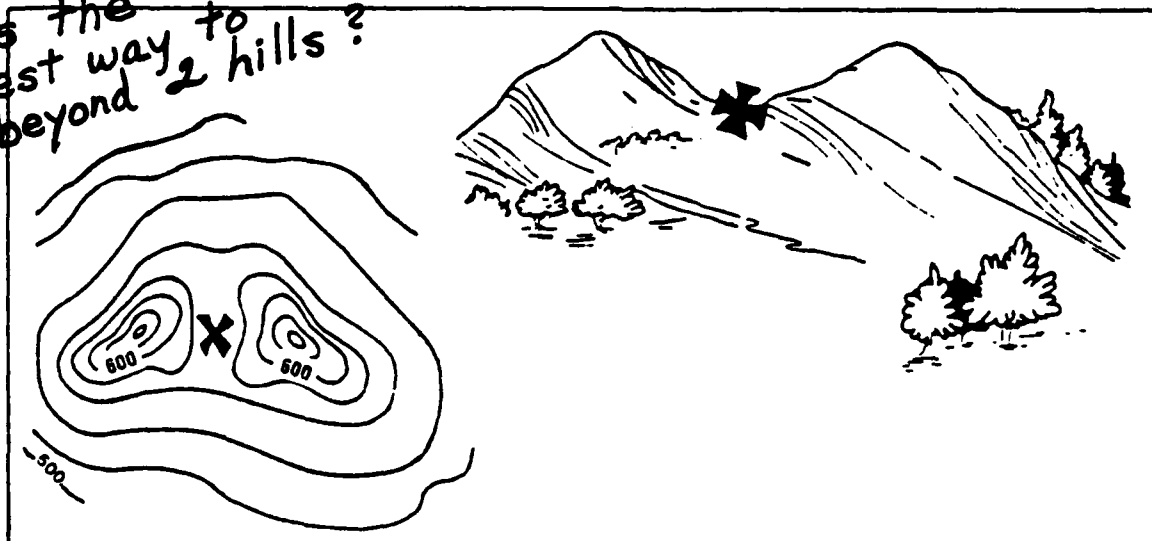
<p>ON MAP</p>  <p>LAST CLOSED CONTOUR LINE</p>	<p>HILL TOP</p>  <p>ON GROUND</p> <p>WHEN YOU ARE ON A HILL TOP, THE GROUND SLOPES IN ALL DIRECTIONS.</p>
<p>ON MAP</p>  <p>U- OR V-SHAPED CONTOUR LINES WITH THE BASE OF THE U- OR V- POINTING TOWARD HIGHER GROUND.</p>	<p>VALLEY</p>  <p>ON GROUND</p> <p>WHEN YOU ARE IN A VALLEY, THE GROUND SLOPES UP IN THREE DIRECTIONS AND DOWN IN ONE DIRECTION.</p>
<p>ON MAP</p>  <p>U- OR V-SHAPED CONTOUR LINES WITH THE BASE OF THE U- OR V- POINTING AWAY FROM HIGHER GROUND.</p>	<p>RIGE</p>  <p>ON GROUND</p> <p>WHEN YOU ARE ON A RIDGE, THE GROUND SLOPES DOWN IN THREE DIRECTIONS AND UP IN ONE DIRECTION.</p>
<p>ON MAP</p>  <p>HOURLGLASS SHAPED OR FIGURE-EIGHT CONTOUR LINES.</p>	<p>SADDLE</p>  <p>ON GROUND</p> <p>WHEN YOU ARE IN A SADDLE, THERE IS HIGHER GROUND IN TWO OPPOSING DIRECTIONS AND LOWER GROUND IN TWO OPPOSING DIRECTIONS.</p>
<p>ON MAP</p>  <p>INDICATED BY DEPRESSION CONTOUR LINES WITH TICK MARKS POINTING TOWARD THE LOWER GROUND.</p>	<p>DEPRESSION</p>  <p>ON GROUND</p> <p>WHEN YOU ARE IN A DEPRESSION, THERE IS HIGHER GROUND IN ALL DIRECTIONS.</p>

Figure 1001-1

Turn the page to continue.

a. Sometimes, contour lines show two hilltops fairly close together. The lowest terrain between the two hilltops is called a saddle (figure 1001-2). Going through a saddle is sometimes the easiest route to get beyond the two hills. Of course, you would not go through a saddle if the enemy was on the hills.

What's the
easiest way to
get beyond 2 hills?



b. Contour lines across a stream always come together in a V. The V points upstream.

The map legend tells you that water is shown in blue on your map. You already know that streams just don't run along the tops of hills. So, looking for streams is a good way to find valleys (figure 1001-3).

How can I
identify a
stream?

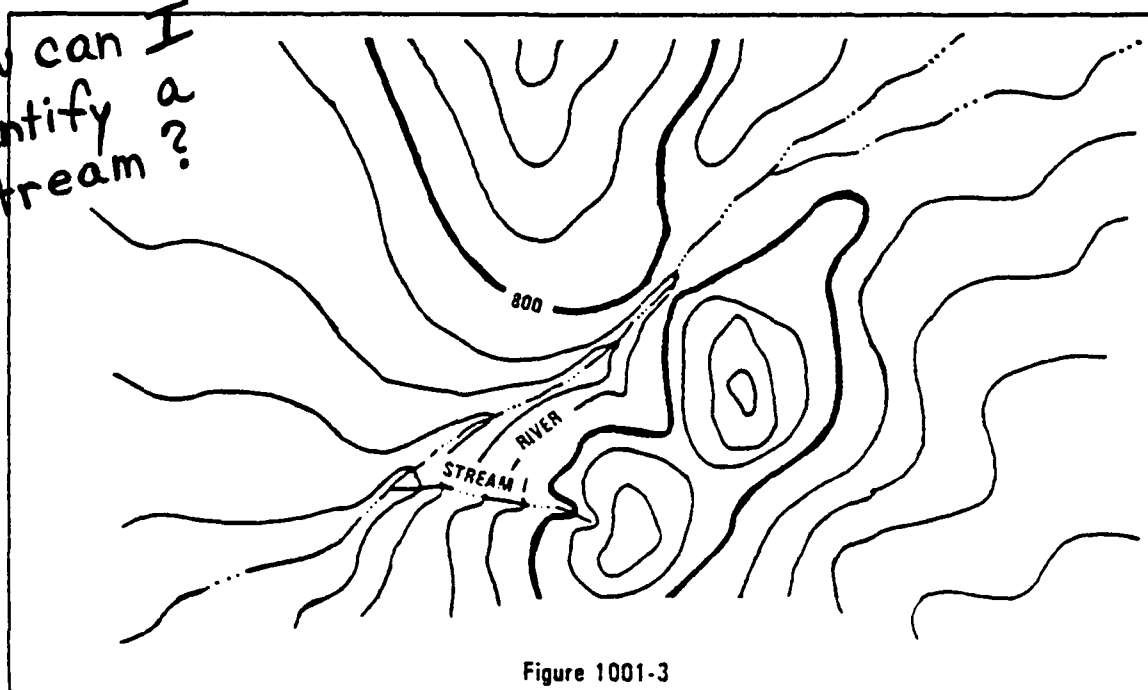
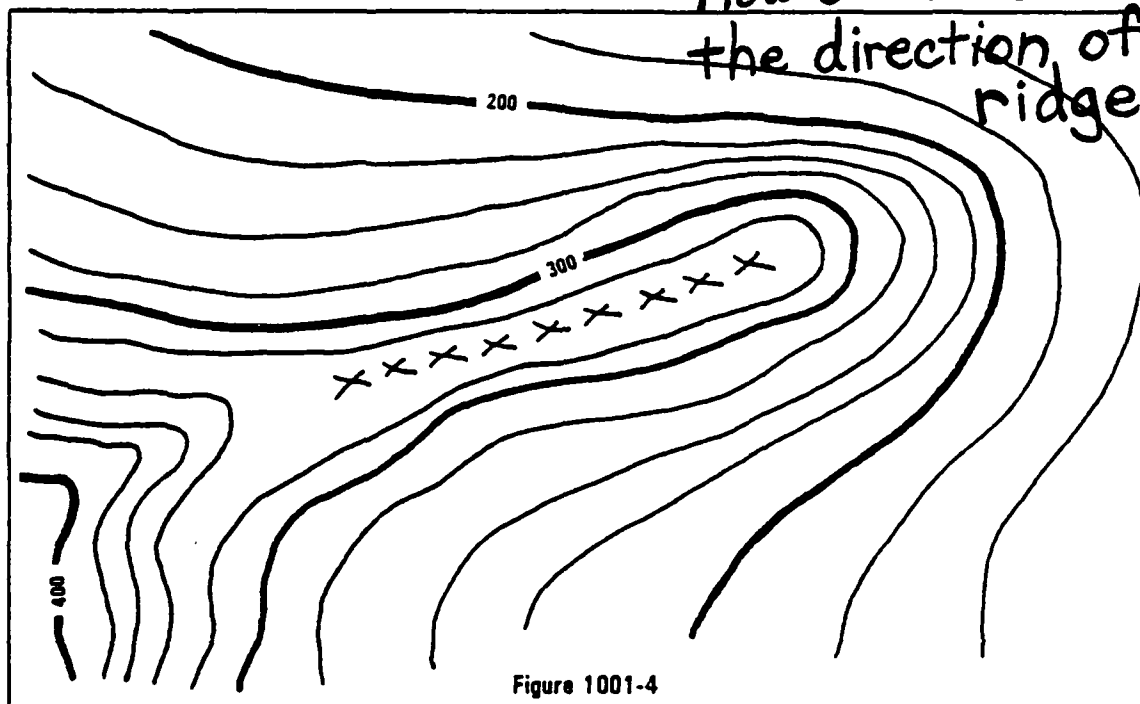


Figure 1001-3

Turn the page to continue.

c. Another terrain feature that you should know about is the ridge (figure 1001-4). A ridge is a fairly long and narrow piece of terrain. If you're standing on a ridge, the ground goes uphill in one direction and downhill in all other directions. Get the picture? (The U's point downhill.)

How can I determine
the direction of a
ridge?



REFERENCES

FM 21-26, (chap 6, pages 6-1 thru 6-9, para 6-1, 6-2)

TEC Lesson 930-071-0013-F, Introduction to Land Navigation

TEC Lesson 930-071-0016-F, Terrain Features and Symbols

WHEN YOU ARE FINISHED, GO ON TO THE NEXT PAGE.

EXERCISE 7

Now try these questions and see how well you know the material. Use the map on page 47. Turn to page 48 to check your answers.

CONDITION: Your supervisor is conducting a class in map reading. He has given you the map on the following page.

What terrain feature is located in the area labeled A?

- a. saddle
- b. hilltop
- c. depression
- d. valley

What terrain feature resembles an hourglass on a map?

- a. saddle
- b. hilltop
- c. depression
- d. valley

Looking for a stream is a good way to locate a:

- a. saddle
- b. hilltop
- c. depression
- d. valley

ANSWER 7

CONDITION: Your supervisor is conducting a class in map reading. He has given you the map on the following page.

What terrain feature is located in the area labeled A?

- a. saddle
- b. hilltop
- ☒ c. depression
- d. valley

What terrain feature resembles an hourglass on a map?

- ☒ a. saddle
- b. hilltop
- c. depression
- d. valley

Looking for a stream is a good way to locate a:

- a. saddle
- b. hilltop
- c. depression
- ☒ d. valley

D

**IMAGERY
HANDBOOK**

Using Imagery To
Remember Information

IMAGERY HANDBOOK

GOALS

- (1) You will know what imagery is and how mental images can help you to remember information.
- (2) You will be able to use mental images to help you learn and recall information such as:
 - Steps in a task
 - Long definitions
 - Basic facts
 - Terrain formations, topographic features, etc.

IMAGERY

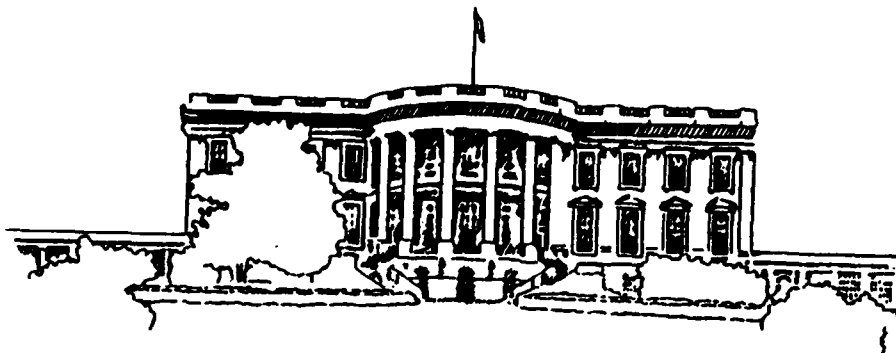
We all have mental images -- "pictures" you carry around in your mind
-- of people, places and events.

```
* * * * *  
*           *  
*   Mental Image --   *  
*           *  
*   A mental picture   *  
*     of something     *  
*           *  
* * * * *
```

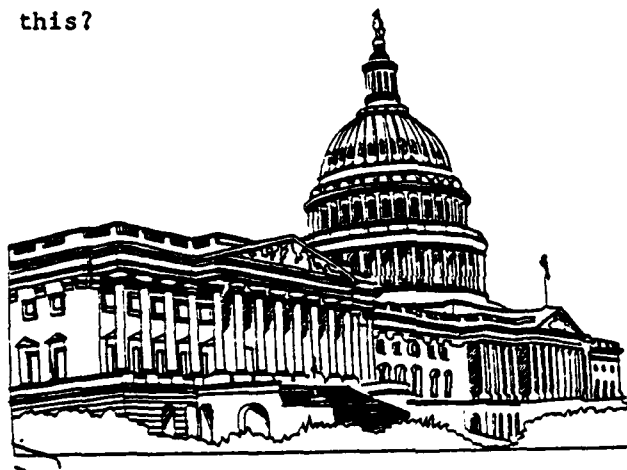
For example, what's the first image that comes to mind when someone
mentions "Washington, D.C.?" Write down the mental image you have when you
think of this city:

GO TO THE NEXT PAGE →

Was this your mental image?



Or maybe this?



Is there an image that comes to mind when someone mentions Abraham Lincoln? Write down your mental image(s).

Did you imagine this?



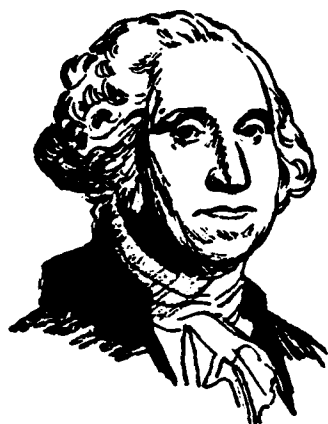
Or maybe this?



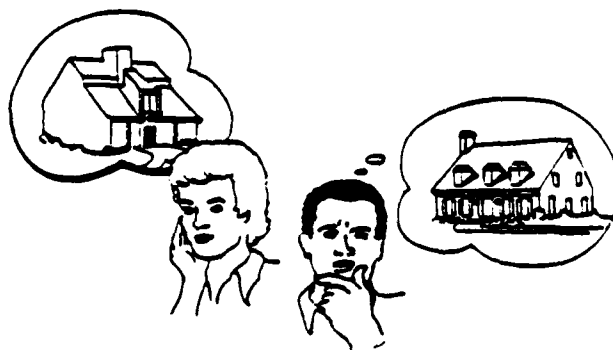
Most of us have images or mental pictures that make us think of certain events, like World War II ...



or famous people, like ...



Many of these images may be personal. If someone mentions "home," your mental picture will be different from everyone else's, since your home is different from everyone else's.

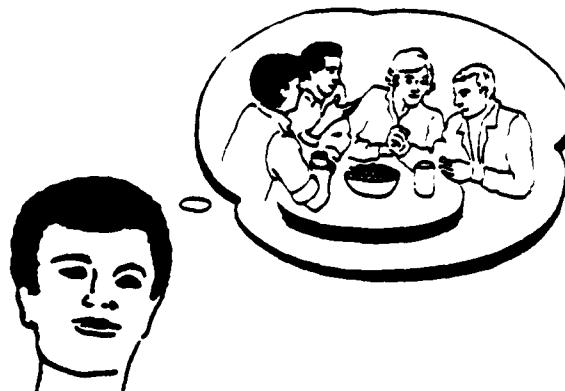


Using mental images can be very useful. For instance, when you're giving someone directions, you might form a mental image of what the area looks like ...



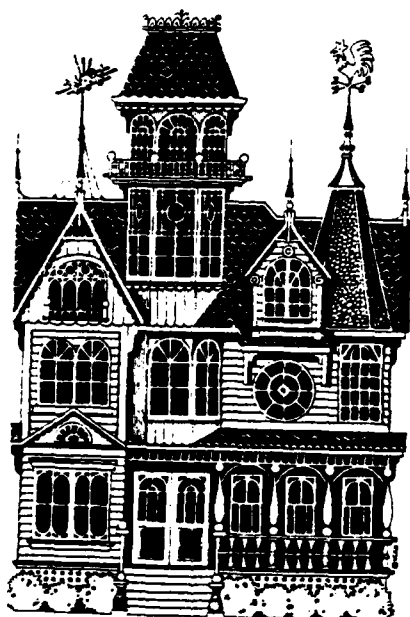
... and point out a tree or a house or a building from your mental image that could be used as a landmark.

As another example, suppose you went out with some friends and later someone asked you who you had been with. To help you remember, you probably would form a mental picture of the group sitting at the table.



The mental images just described probably weren't formed for any special reason. They're just there as a result of things that have happened to you and places you've been.

Many of these images can stay in your memory for a long time. For example, you can probably remember how many windows there were in the house or apartment you grew up in.



Try it! Think about it for a minute or two, then turn the page and answer the questions that follow.

GO TO THE NEXT PAGE →

Did you remember? If so, the important thing is not how many windows you remembered, but how you got your answer. You may have already known the number of windows without having to think about it or you may have used some other method to figure it out. Maybe you didn't figure it out at all. A lot of people have trouble answering this question.

* * * * *

One good way to come up with the answer is by using visual imagery -- picturing something in your mind.

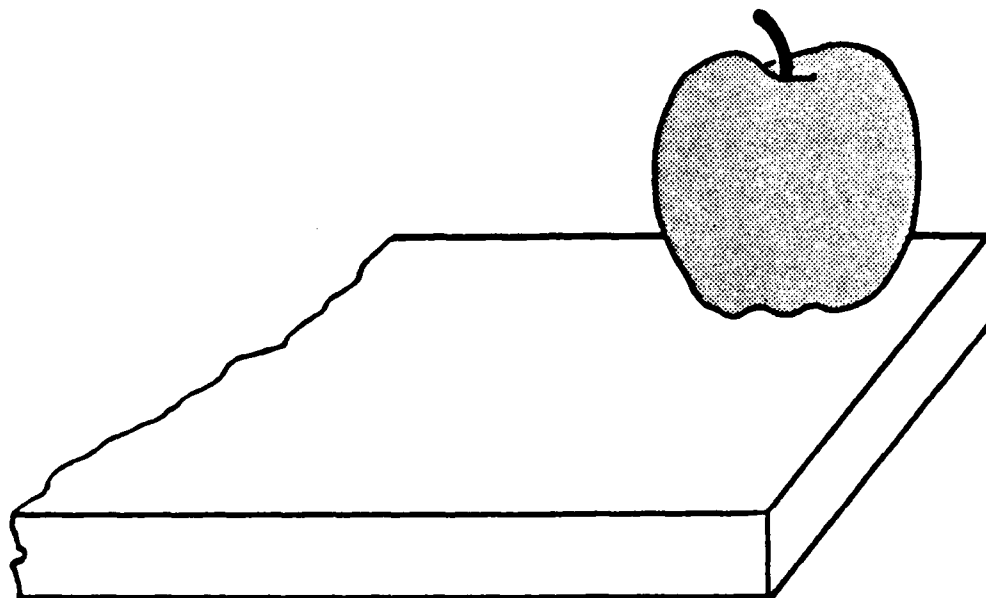
```
* * * * *
*          *
*  VISUAL IMAGERY -  *
*          *
*  Picturing something  *
*    in your mind.    *
*          *
* * * * *
```

Try using visual imagery to come up with the number of doors in that same house or apartment. Remember to picture each room first, then add the number of doors together.

Take a few minutes to do this, then turn to the next exercise.

GO TO THE NEXT PAGE →

Now try something different. Look at the picture below for only 10 seconds. Study it. Then turn the page and answer the questions without looking back at the picture. Use your mental image of the picture to answer the questions.



GO TO THE NEXT PAGE →

QUESTIONS

(Check the correct answer)

1. Was the table:

☐ Round

☐ Square

2. What was on the table?

☐ Orange

☐ Lemon

☐ Apple

☐ Cucumber

3. Where was the fruit on the table?

☐ Upper right corner

☐ Lower right corner

☐ Lower left corner

☐ Upper left corner

Now check your answers with the answers on the next page.

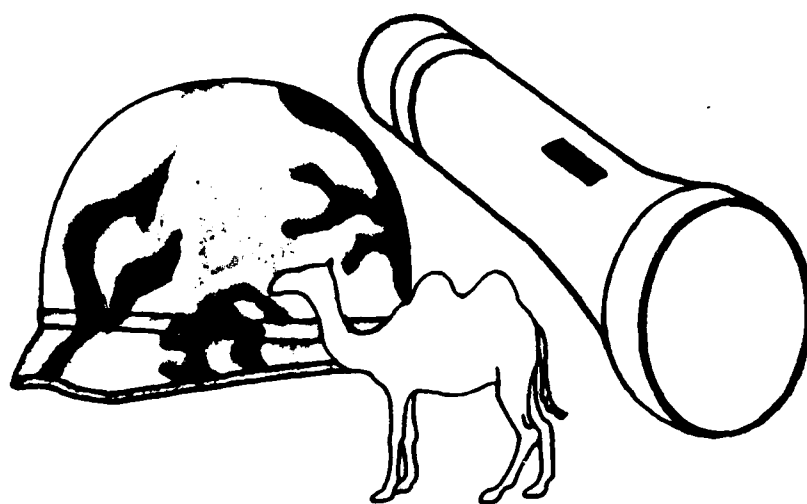
ANSWERS TO QUESTIONS ON PAGE 9:

1. Square
2. Apple
3. Upper right corner

If you got them right, congratulations! If you missed any, look at the picture again for a few seconds, then answer the questions again.

GO TO THE NEXT PAGE

Forming clear mental images isn't always done by chance. You can form these images on purpose -- to help you remember things. Look at the picture below for 10 seconds. Use your mental image to answer the questions on the next page without looking back at the picture.



GO TO THE NEXT PAGE →

QUESTIONS

(Check One)

1. Was there an apple in the picture?

☐ Yes

☐ No

2. Was there a tank in the picture?

☐ Yes

☐ No

3. Was there a flashlight in the picture?

☐ Yes

☐ No

4. Was there a grenade in the picture?

☐ Yes

☐ No

5. Was there a camel in the picture?

☐ Yes

☐ No

6. Did the camel have one hump or two humps?

☐ One

☐ Two

Now check your answers with the answers on the next page.

GO TO THE NEXT PAGE →

ANSWERS

1. No
2. No
3. Yes
4. No
5. Yes
6. Two

GO TO THE NEXT PAGE

You can see how you can form images in your mind without knowing that you're doing it. These mental images can help you to remember information.

* * * * *

Forming images can also help you with things you have to learn. For example, you might need to remember the three methods of clearing an object from the throat of someone who is conscious:

- o back blows
- o stomach thrusts
- o chest thrusts

By visualizing each of these methods, it will be easier to remember them.



Back Blows



Stomach Thrusts

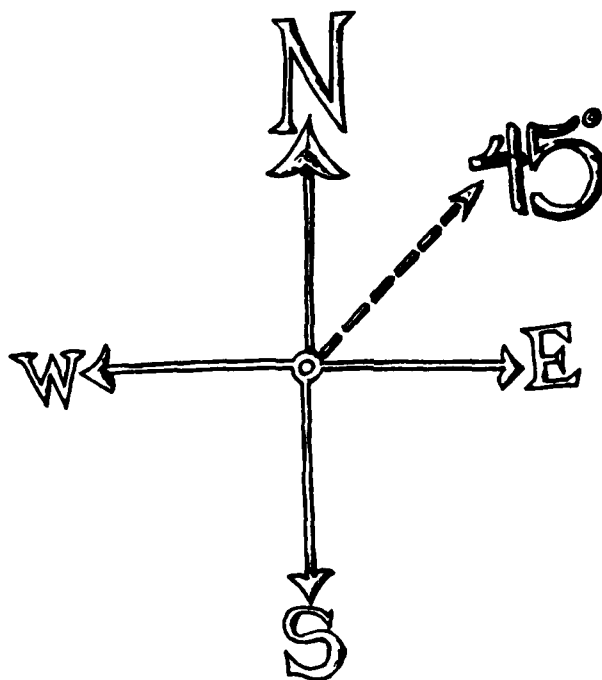


Chest Thrusts

Sometimes you may not be able to come up with an image that will help you remember something. For example, the written definition of a bearing is:

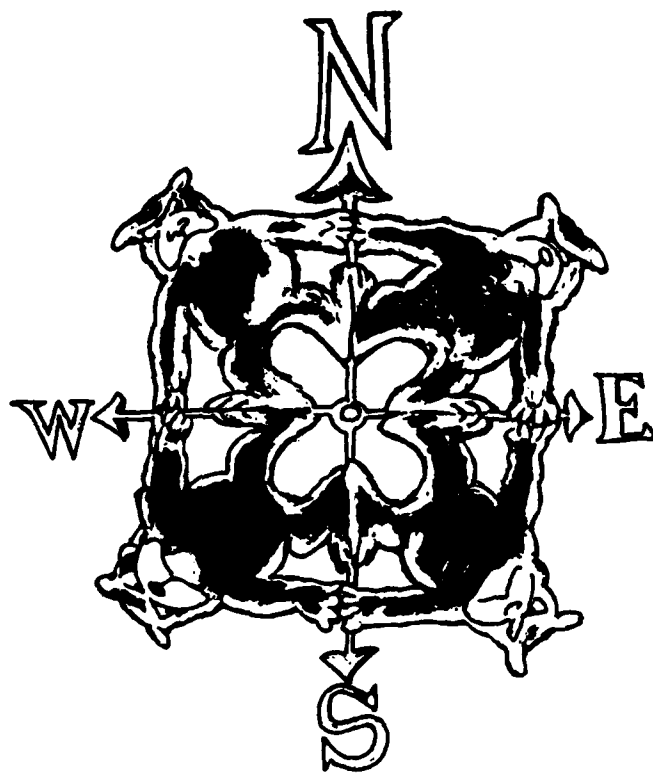
"A direction expressed as an angle measured to the east or west from a north or south reference line."

For example, the picture of N45°E would look like this:



If you had to remember what "bearing" meant, the picture above might be as hard to remember as the long written definition.

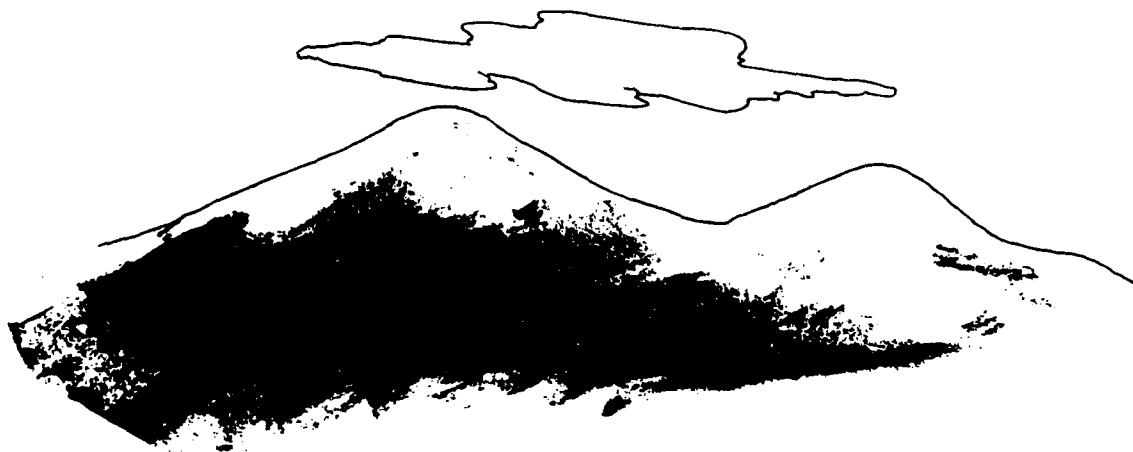
So, it may be better to come up with a mental picture (image) you wouldn't see in the "real world" -- even something silly or funny. For example, to remember bearing, first think of a "bear ring"...



... A ring of bears around a north/south line. Each bear is placed so that together they form an angle east or west of that north-south line.

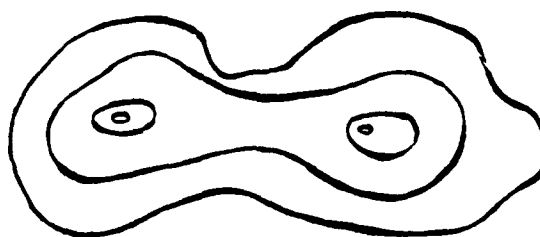
Now you'll have a chance to come up with your own mental image. First, as you look at the picture, you'll read some information. Then you'll have 30 seconds to think about the picture and come up with a mental picture (an image) of it.

The first picture:

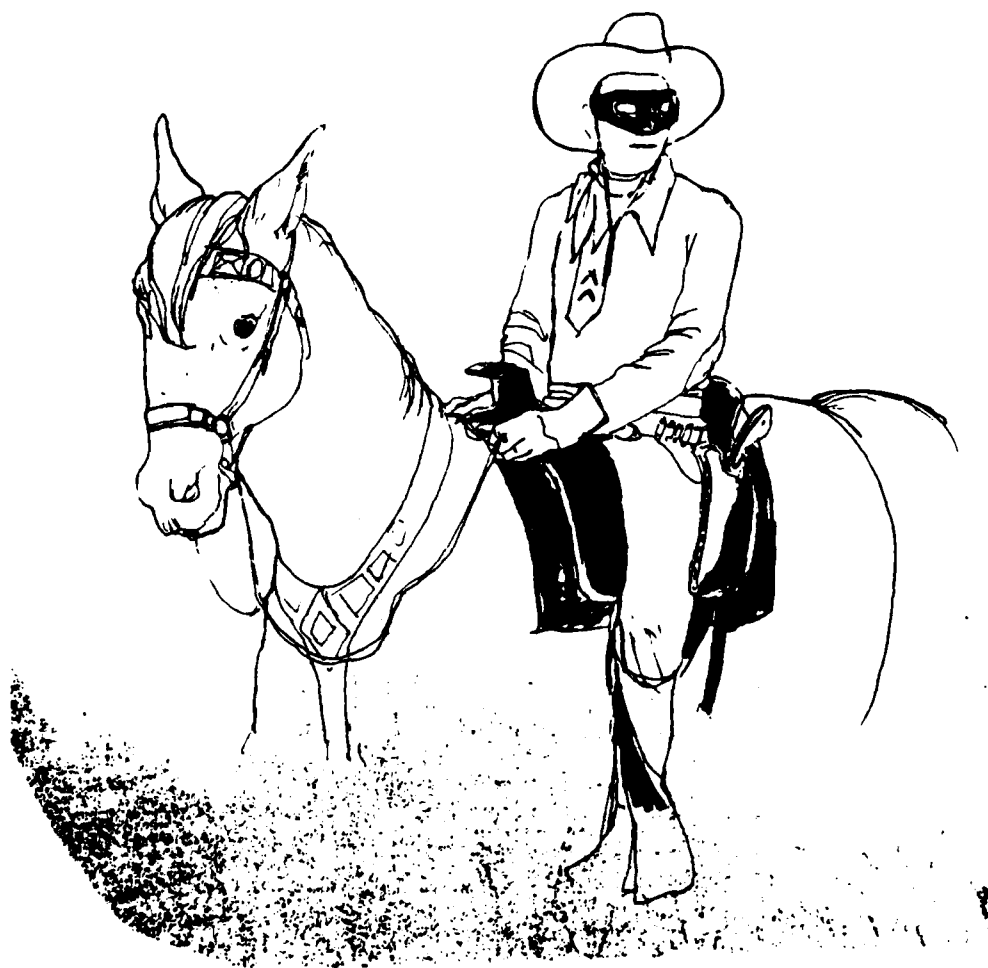


As you know, this terrain formation is called a "saddle." It's a good word for it because it really does look like a saddle!

But when you see this same formation from overhead on a topographic map, it looks like this ...



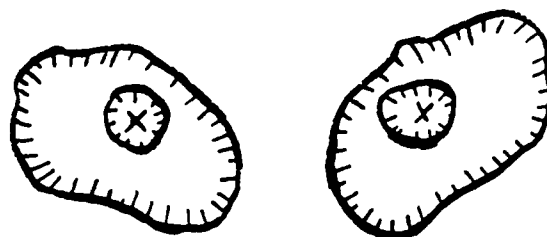
If you think of the Lone Ranger wearing a mask and sitting in a saddle...



it may help you remember the connection between a saddle and what looks like a mask.

GO TO THE NEXT PAGE →

Now look at another picture:

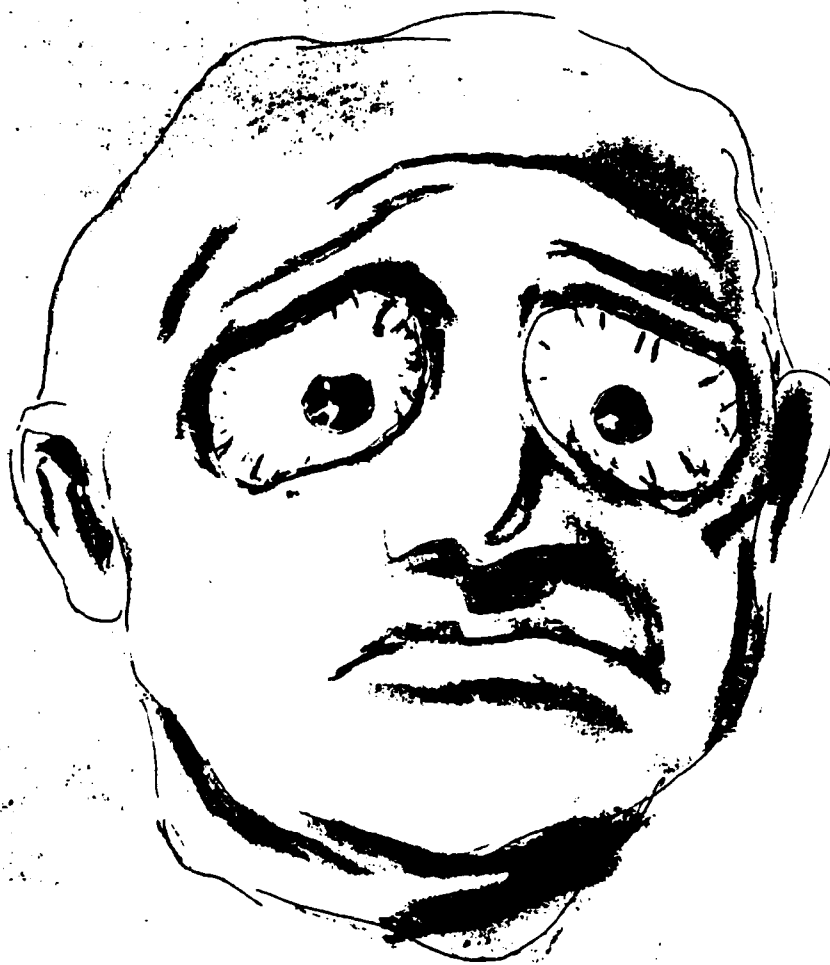


This feature on a topographic map is a depression. The lines that point toward the center show that the outer edges of the depression are higher than the center.

Take a minute to see if you can think up an image that will help you remember that this feature is called a depression. After you've thought about it, turn the page.

GO TO THE NEXT PAGE →

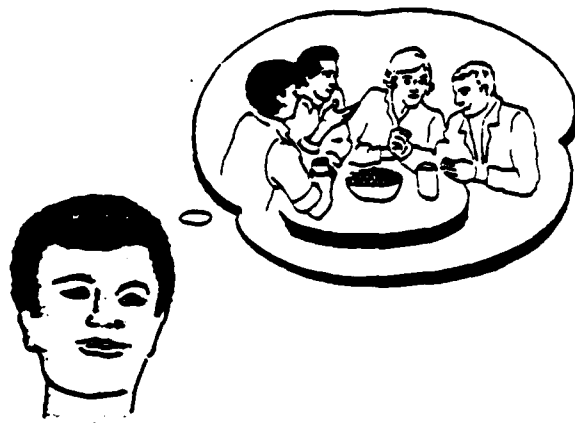
If you couldn't think of an image, here's one that might help. When you put two of these features together, you might think of a depressed person with bloodshot eyes.



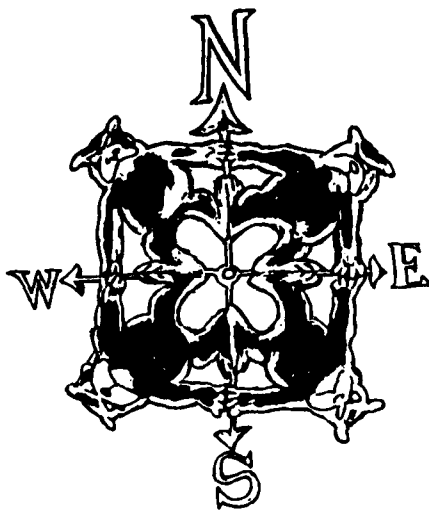
So when you see a feature with these lines on a map, you'll think of a depressed person--and that will make you think of a depression!

GO TO THE NEXT PAGE →

You've now seen how you can use mental images to help you remember information. Sometimes the images can be very real:



Other times, they can be less real, even funny:



So, if you want to remember something, come up with a mental image that will help you think of certain facts or tasks you're trying to learn. Try using imagery!

In this next exercise, you'll try forming some images and see if they'll help you to remember some facts.

Read the first fact below, then form an image in your mind that will help you remember that fact. When you have an image, go on to the next fact. Do this for each of the facts until you are done.

FACT #1: There are 400 grads in a circle. (Think of an image.)

FACT #2: There are three techniques for moving under direct fire. (Think of an image.)

FACT #3: Compass readings should never be taken near masses of iron or electrical circuits. (Think of an image.)

FACT #4: Lines of latitude run east-west. Lines of longitude run north-south. (Think of an image.)

FACT #5: The two primary methods of artificial respiration are mouth-to-mouth and back pressure arm lift. (Think of an image.)

FACT #6: Objects will seem closer to you than they actually are on a bright day. (Think of an image.)

FACT #7: Large objects will seem closer to you than they actually are. (Think of an image.)

FACT #8: Brightly colored objects will seem closer than they actually are. (Think of an image.)

FACT #9: In the Northern Hemisphere, if you point the hour hand of your watch at the sun, south will be about halfway between the hour hand and twelve o'clock. (Think of an image.)

FACT #10: There are 360 degrees in a circle. (Think of an image.)

* * * * *

Go back over any facts that may have seemed difficult to remember, then turn to the next page and answer the questions without looking back at the facts. Answers are on a separate page.

Remember - use your mental images to help you answer the questions.

QUESTIONS

1. How many grads are there in a circle? (Check one.)
☐ a. 360
☐ b. 400
☐ c. 6400
2. Which technique can be used while moving under direct fire?
☐ a. pole vault
☐ b. high hurdles
☐ c. retreat
☐ d. low crawl
3. Compass readings should never be taken near:
☐ a. masses of iron
☐ b. electrical circuits
☐ c. the enemy
☐ d. both a and b
4. Lines of longitude run:
☐ a. north-south
☐ b. east-west
5. The two primary methods of artificial respiration are:
☐ a. mouth-to-mouth and back blows
☐ b. stomach thrusts and back blows
☐ c. back pressure arm lift and mouth-to-mouth
6. An object will seem closer than it actually is on:
☐ a. a bright day
☐ b. an overcast day
☐ c. a foggy day
☐ d. a clear night

QUESTIONS (continued)

7. An object will seem closer than it actually is when:

- ☐ a. it's dark
- ☐ b. it's white
- ☐ c. it's brightly colored
- ☐ d. it's the same color as the background

8. An object will seem closer than it actually is when:

- ☐ a. it's large
- ☐ b. it's small
- ☐ c. it's medium-sized
- ☐ d. it's about your size

9. You're in Columbus, Ohio. You point the hour hand of your watch at the sun and head off in the direction that is halfway between the hour hand and 12 o'clock. You are going:

- ☐ a. north
- ☐ b. south
- ☐ c. east
- ☐ d. west

10. How many degrees are there in a circle?

- ☐ a. 512
- ☐ b. 91
- ☐ c. 3
- ☐ d. 360

ANSWERS

1. b (400)
2. d (low crawl)
3. d (both a and b)
4. a (north-south)
5. c (back pressure arm lift and mouth-to-mouth)
6. a (a bright day)
7. c (it's brightly colored)
8. a (it's large)
9. b (south)
10. d (360)

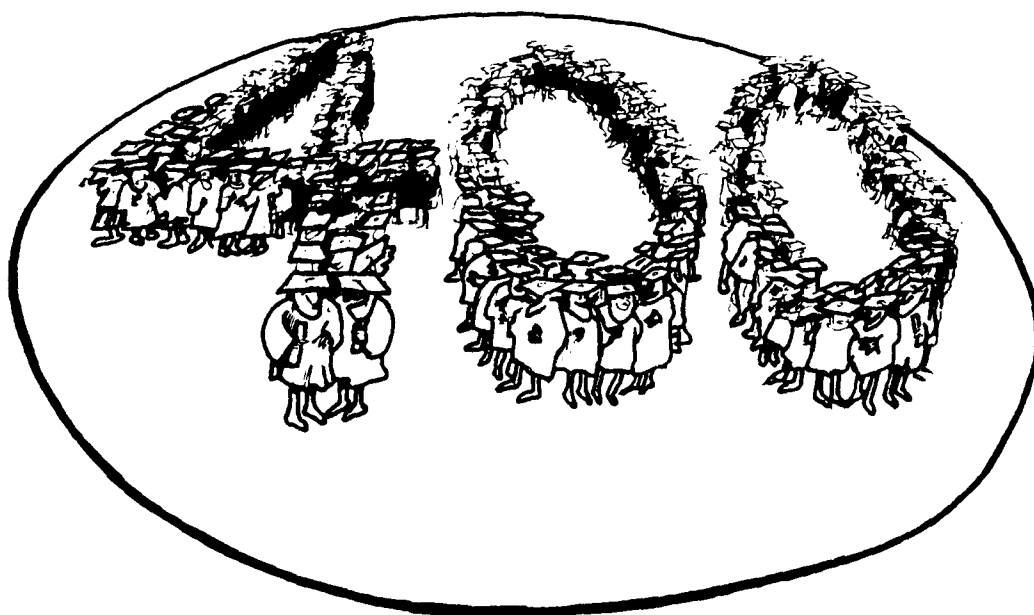
NOW GO ON TO THE NEXT PAGE →

Did visual imagery help you answer the questions? (Check one.)

- ☐ A great deal
- ☐ Quite a lot
- ☐ A little
- ☐ Very little or not at all

Now go back and review the facts. This time, look at the image that appears below each fact. These images were someone else's; see if your images were similar or different.

FACT #1: There are 400 grads in a circle.



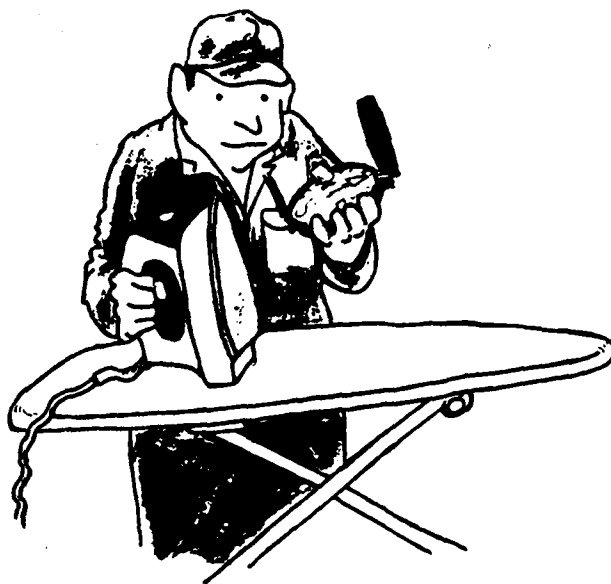
You might think of a lot of people graduating from high school ("grads"), standing together to form the number 400, with a circle around them.

FACT #2: There are three techniques for moving under direct fire: high crawl, low crawl, and rush.



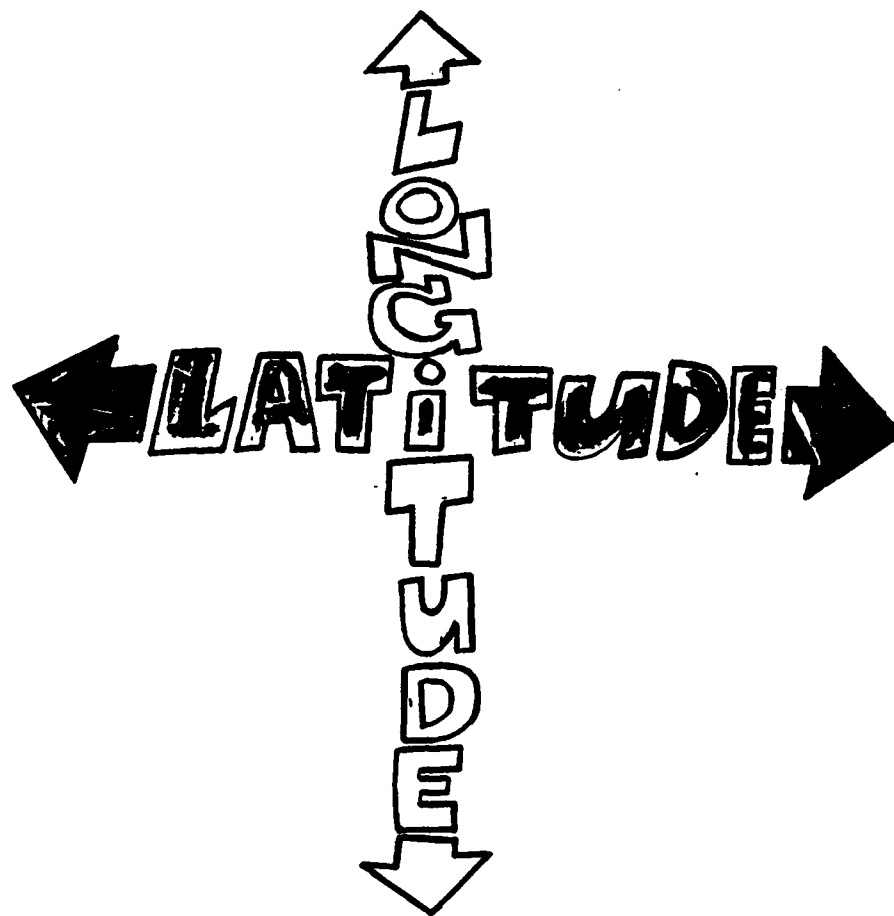
Think of someone going through each of these techniques.

FACT #3: Compass readings should never be taken near visible masses of iron or electrical circuits.



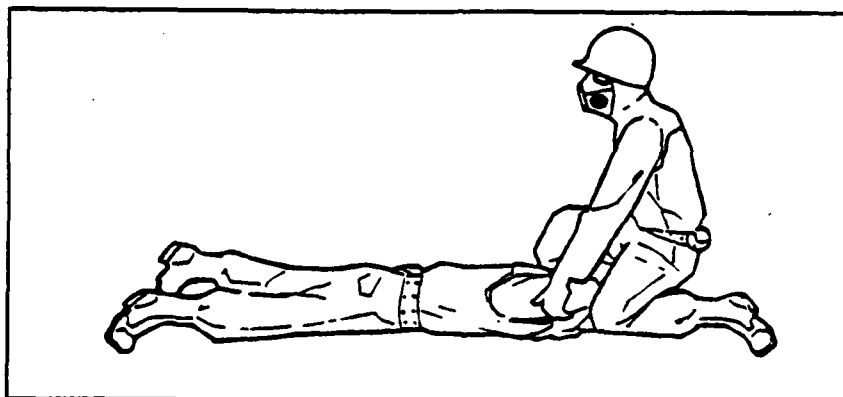
To help you remember this fact, think of someone holding a compass near an iron that is plugged in with an "X" over the picture.

FACT #4: Lines of latitude run east-west; lines of longitude run north-south.



Think of the two words intersecting, with "longitude" hanging down very long.

FACT #5: The two primary methods of artificial respiration are mouth-to-mouth and back pressure arm lift.



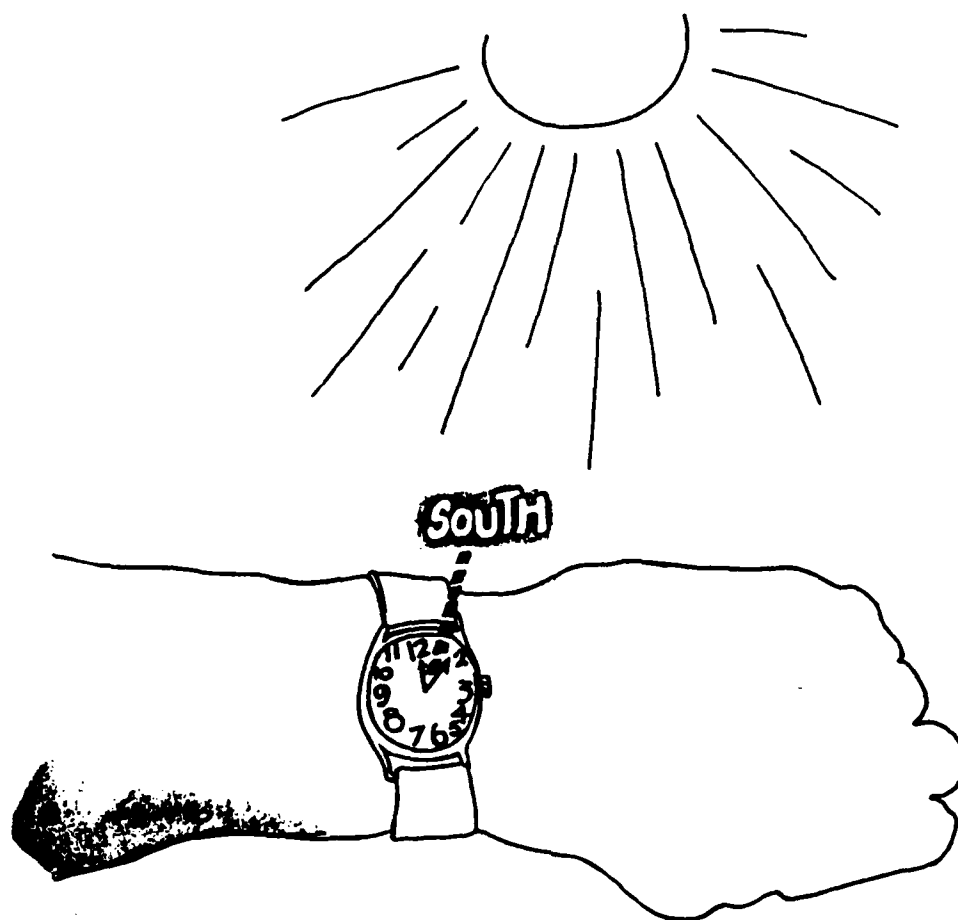
Try to think of someone actually doing these procedures and it might help you to remember what they are called.

FACTS #6, 7, and 8: (All are about the same thing):
Objects will seem closer to you than they actually are
when: -- it's a bright day
-- they are large
-- they are brightly colored



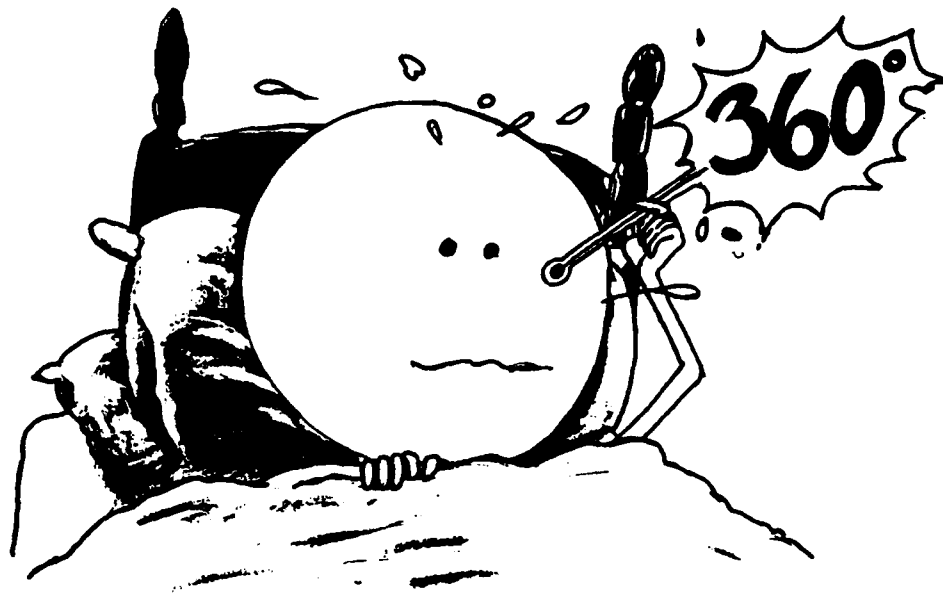
You might think of a giant clown in a bright clown suit
lying in the sun, with a small elephant behind him.

FACT #9: In the Northern Hemisphere, if you point the hour hand of your watch at the sun, south will be about halfway between the hour hand and 12 o'clock.



Maybe this image will help you remember the watch method of direction finding.

FACT #10: There are 360° in a circle.



Think of an unhappy face shaped like a circle that is resting in bed with a temperature of 360° .

Now go back to pages 21 and 22 and try the quiz again. See if using these visual images helped you to remember the facts better the second time. Good luck!

E
GROUPING
HANDBOOK

GROUPING HANDBOOK

GOALS

- (1) You will know what grouping is and how it can help you learn and remember facts and information.
- (2) You will be able to use grouping to help you learn and remember certain information, such as:
 - Lists of directions
 - Steps in a task or procedure
 - Series of numbers
 - Sets of facts, etc.

GROUPING

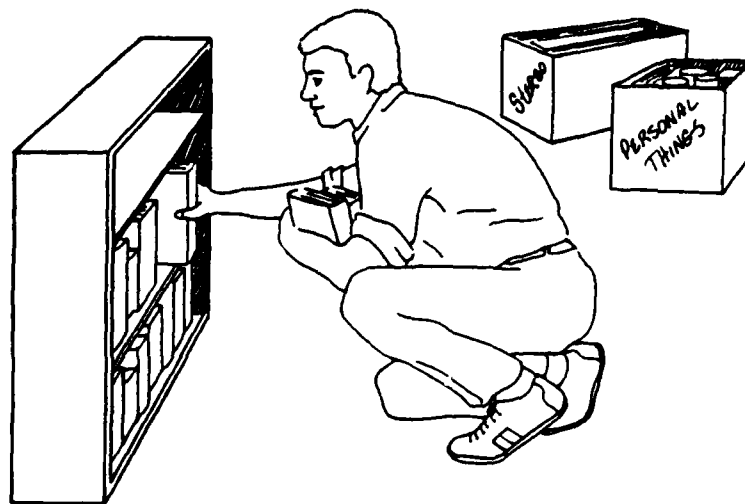
In this lesson, you'll learn about using a method called grouping that will help you learn and remember facts and information. First, try this exercise ...

Imagine for a moment that you have been PCS'd or reassigned to another unit and have to pack all your things into several large boxes. How would you do it? Take a few minutes to think about it, then, in the space below, write down what you think you might do.

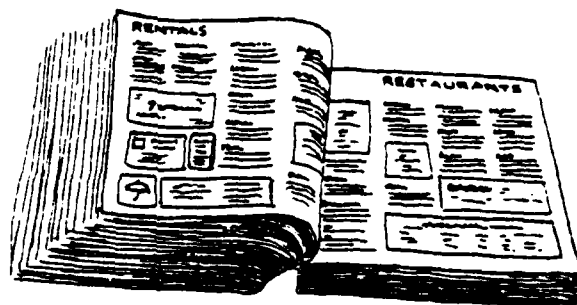
One way to do it would be to put things that belong together--like clothes, for example--in one box; books and magazines into another box; personal things, like razors, soap, medicine, etc., into a third box; and so on. Then mark the boxes to show what's in each one.



By grouping things in this way, it's a lot easier to find them later on.



It's the same way with remembering or learning information. A lot of information has been grouped in some way. For example, think of the Yellow Pages. You'd never be able to find any of the stores you wanted if they weren't grouped by the product or the service they offer.



Grouping is a way of sorting or arranging information so that it's easier to learn or use. Grouping is very useful when you're trying to remember things--like MOS's for example. Look at the way they're grouped. All the 1's are Combat Arms, and within that grouping are the combat specialties, like 11's (Infantry) and 19's (Armor) ...

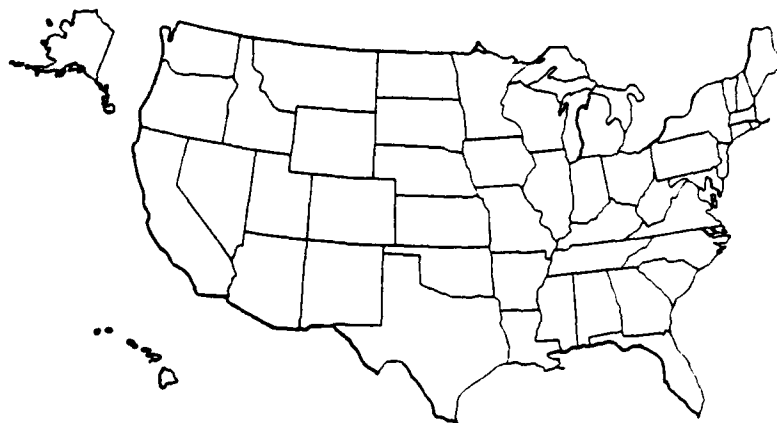
ARMY ENLISTED

Service Occ.	Title	DoD Occ.	IDOS
11B	• Infantryman	010	TA
11C	• Indirect Fire Infantryman	010	TA
11H	• Heavy Antarmor Weapons Crewman	010	TA
11M	• Fighting Vehicle Infantryman	010	TA
12B	• Combat Engineer	030	TC
12C	• Bridge Crewman	030	TC
12E	• Atomic Demolition Munitions Specialist	030	TC
12F	• Engineer Tracked Vehicle Crewman	030	TC
12Z	• Combat Engineering Senior Sergeant	030	TC
13B	• Cannon Crewman	041	TD
13C	• Tactire Operations Specialist	250	GN
13E	• Cannon Fire Direction Specialist	250	GN
13F	• Fire Support Specialist	250	GN
13M	• Multiple Launch Rocket System (MLRS) Crewmember	042	TD
13R	Firefinder Radar Operator	221	GN
13W	Field Artillery Target Acquisition Senior Sergeant	250	GN
13Y	Cannon/Missile Senior Sergeant	041	TD
13Z	Field Artillery Senior Sergeant	041	TD
15D	LANCE Crewmember/MLRS Sergeant	042	TD
15E	Pershing Missile Crew Member	043	TD
15J	MLRS/LANCE Operational/Fire Direction Specialist	043	TD
16B	Hercules Missile Crew Member	043	TD
16C	Hercules Fire Control Crewman	043	TD
16D	Hawk Missile Crew Member	043	TD
16E	Hawk Fire Control Crew Member	043	TD
16F	• Light Air Defense Artillery Crewman (Reserve Forces)	043	TD
16G	• ROLAND Crewmember	043	TD
16H	Air Defense Artillery Operations & Intelligence Assistant	250	GN
16J	Defense Acquisition Radar Crewman	221	GN
16P	• Air Defense Artillery Short Range Missile Crewman	043	TD
16R	• Air Defense Artillery Short Range Gunnery Crewman	041	TD
16S	• MANPADS (Man Portable Air Defense System) Crewman	043	TD
16T	Patnot Missile Crewmember	043	TD
16Z	Air Defense Artillery Senior Sergeant	043	TD
17B	Field Artillery Radar Crew Member	221	GN
17C	Field Artillery Target Acquisition Specialist	241	GN
17K	• Ground Surveillance Radar Crewman	221	GN
17L	Aenal Sensor Specialist (Reserve Forces)	233	GN
17M	• Unattended Ground Sensor Specialist	221	GN
19D	• Cavalry Scout	250	TB
19E	• M48-M60 Armor Crewman	020	TB
19K	• M1 ABRAMS Crewman	020	TB
19Z	• Armor Senior Sergeant	020	TB
21G	Pershing Electronics Materiel Specialist	121	PJ
21L	Pershing Electronics Repairer	121	PJ
22L	Nike Test Equipment Repairer	121	PJ
22N	Nike-Hercules Missile-Launcher Repairer	121	PS
23N	Nike Track Radar Repairer	104	PJ
23U	Nike High Power Radar-Simulator Repairer	104	PJ
23W	Nike Maintenance Chief	104	PO
24C	Improved Hawk Finng Section Mechanic	121	PJ

You can see that remembering the MOS number can often help you remember the kind of jobs that are grouped together, since most MOS's that are similar tend to have the same number.

In the same way, if you had to memorize the names of the 50 states for a test, you might have trouble trying to remember them one by one.

ALABAMA
ALASKA
ARIZONA
ARKANSAS
CALIFORNIA
COLORADO
CONNECTICUT
DELAWARE
FLORIDA
GEORGIA
HAWAII
IDAHO
ILLINOIS
INDIANA
IOWA
KANSAS
KENTUCKY
LOUISIANA
MAINE
MARYLAND
MASSACHUSETTS
MICHIGAN
MINNESOTA
MISSISSIPPI
MISSOURI



MONTANA
NEBRASKA
NEVADA
NEW HAMPSHIRE
NEW JERSEY
NEW MEXICO
NEW YORK
NORTH CAROLINA
NORTH DAKOTA
OHIO
OKLAHOMA
OREGON
PENNSYLVANIA
RHODE ISLAND
SOUTH CAROLINA
SOUTH DAKOTA
TENNESSEE
TEXAS
UTAH
VERMONT
VIRGINIA
WASHINGTON
WEST VIRGINIA
WISCONSIN
WYOMING

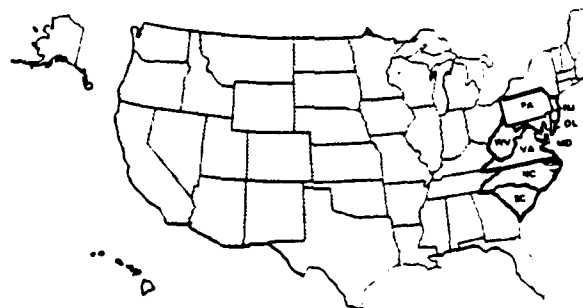
But if you grouped them by regions, for example, the New England states or the mid-Atlantic states, it would be easier to remember them.

NEW ENGLAND STATES

DELAWARE
MARYLAND
NEW JERSEY
NORTH CAROLINA
PENNSYLVANIA
SOUTH CAROLINA
VIRGINIA
WEST VIRGINIA

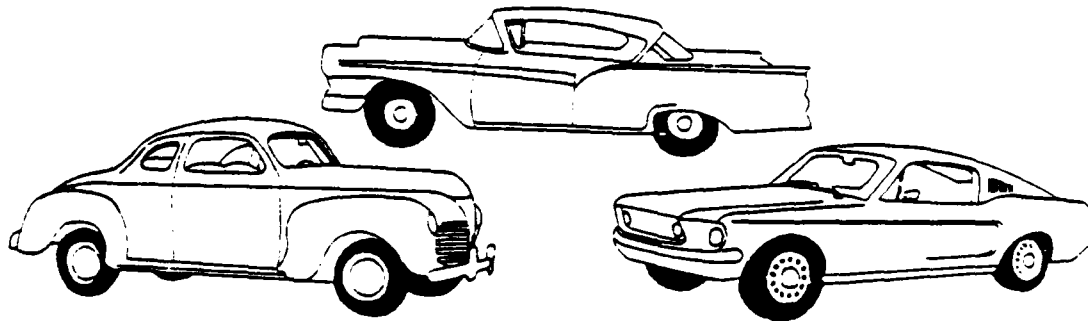
MID-ATLANTIC STATES

CONNECTICUT
MAINE
MASSACHUSETTS
NEW HAMPSHIRE
NEW YORK
RHODE ISLAND
VERMONT

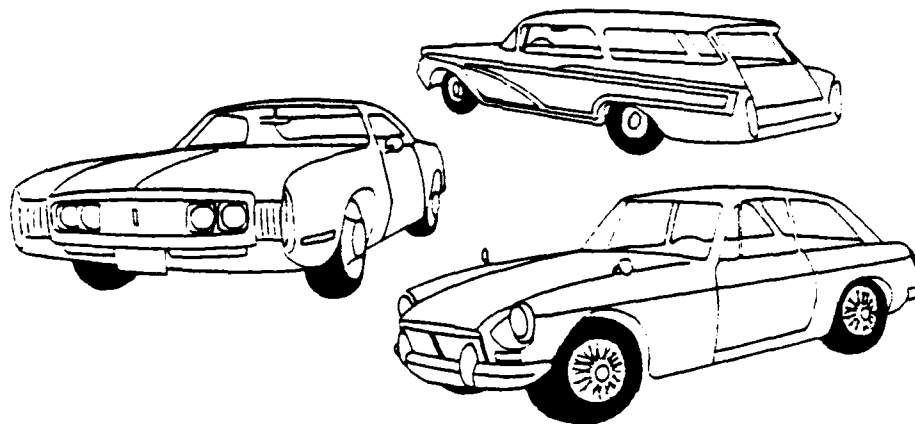


All you do is think first of the group and then recall the states in that group.

Grouping can also help you to recognize certain things--like cars, for instance. They can be grouped by year ...



... or by type (large, intermediate, subcompact).

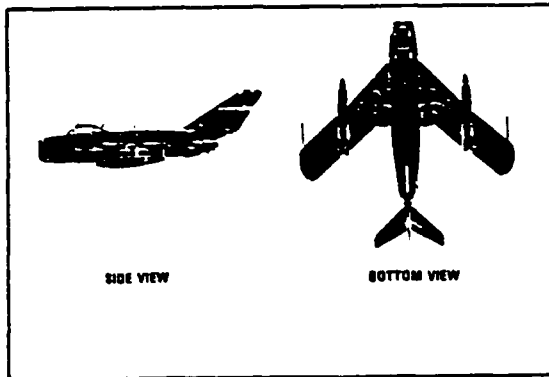


Grouping can also help you to learn how to recognize threat aircraft. As you look at the aircraft shown on the next page, think of how you might sort them into two groups. (The two groups will not have an equal number of aircraft.)

GO ON TO THE NEXT PAGE →

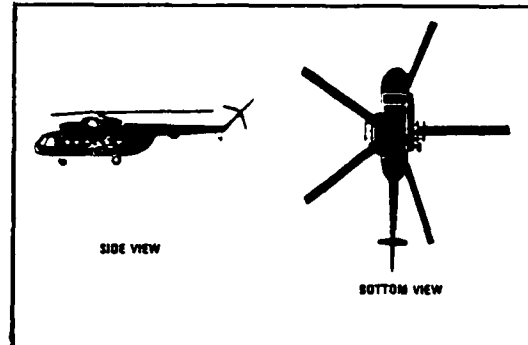
First, look at the aircraft below and decide what your two groups will be. When you have sorted the aircraft into two groups, go on to the next page.

MiG-17 (Fresco C)



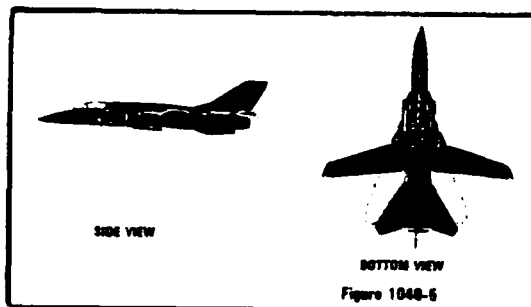
A

MI-8 (Hip)



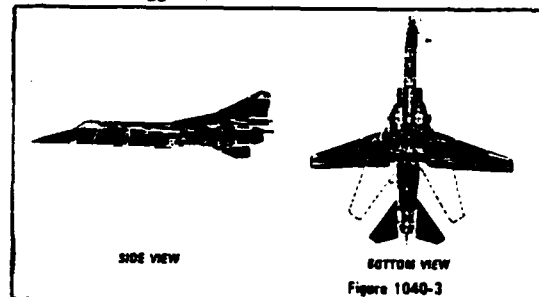
B

SU-19 (Fencer)



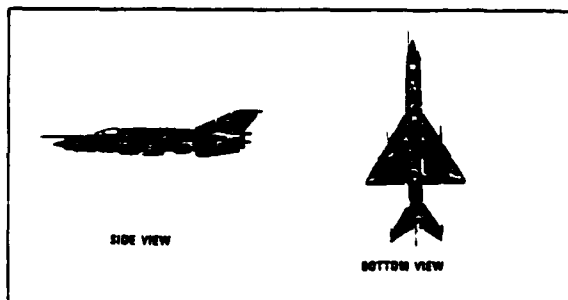
C

MiG-27 (Flogger D)



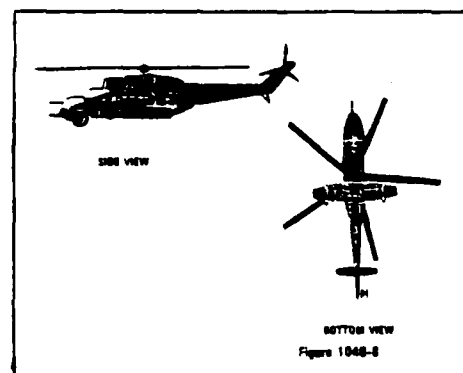
D

MiG-21 (Fishbed J)



E

MI-24 (Hind D)



F

Did you group them this way?

Variable and Fixed Wing

A

C

D

E

Rotary Wing

B

F

If you answered "Yes", that's a good way to group them, since it's an important difference and one that is easy to see.

If you answered "No", you grouped them in a way that makes sense to you, but is probably not as simple--or as important--as grouping them by fixed wing vs. rotary wing.

As you look at the drawings on the next page, decide which of the four features below you would use to sort the aircraft into two groups.

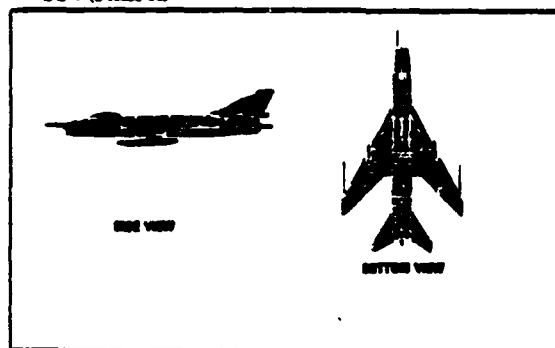
Features to consider:

1. Color
2. Tail
3. Length
4. Wings

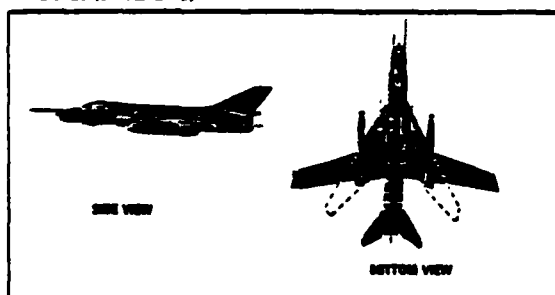
GO ON TO THE NEXT PAGE →

Look at the sketches below, then answer the question.

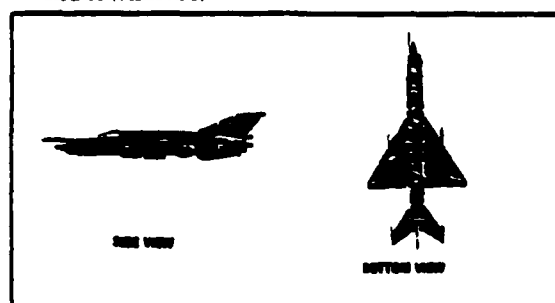
SU-7 (Fitter A)



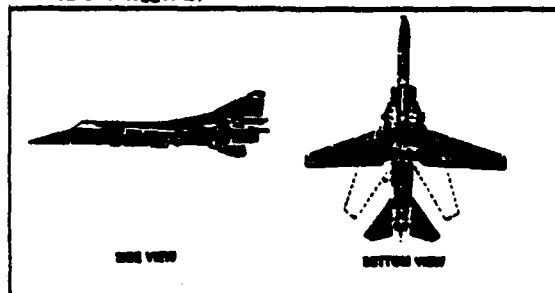
SU-26 (Fitter B/C)



MG-21 (Fishbed J)



MG-27 (Flogger D)



Which feature did you use to divide the aircraft into two groups?

Check (✓) the feature below.

- ☐ 1. Color
- ☐ 2. Tail
- ☐ 3. Length
- ☐ 4. Wings

GO ON TO THE NEXT PAGE →

The feature used to divide the aircraft into two separate groups was:

- ☐ 1. Color
- ☐ 2. Tail
- ☐ 3. Length
- ☒ 4. Wings

EXPLANATION:

The MIG27 and the SU20 have variable wings, while the MIG21 and the SU7 don't. The other three features (color, tail, length) are about the same for all four planes as they appear in your manual.

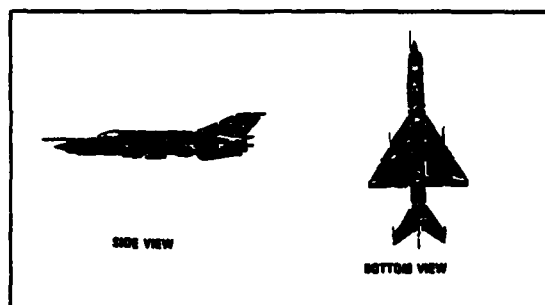
Now look at the drawings on the next page and again decide which of the features listed below you would use to sort the aircraft into two groups:

- 1. Tail
- 2. Color
- 3. Body
- 4. Landing gear

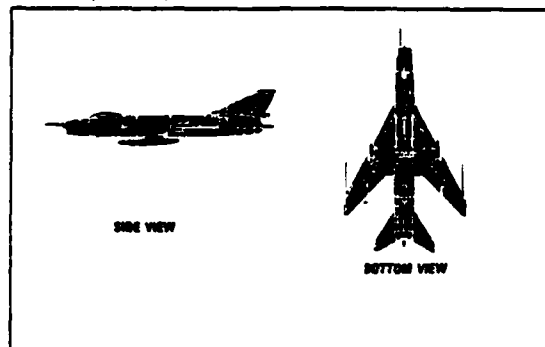
GO ON TO THE NEXT PAGE 

Look at the sketches below, then answer the question on the next page.

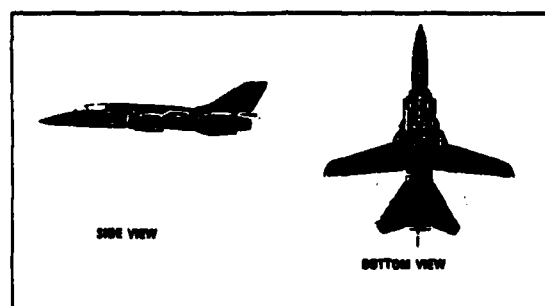
MIG-21 (Fishbed J)



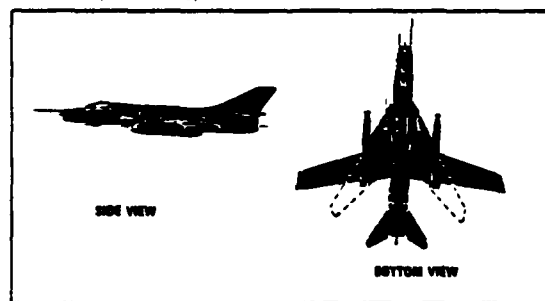
SU-7 (Fitter A)



SU-19 (Fencer)



SU-20 (Fitter B/C)



Which feature did you use to divide the aircraft into two groups?

Check (✓) the feature below.

- ☐ 1. Tail
- ☐ 2. Color
- ☐ 3. Body
- ☐ 4. Landing gear

GO ON TO THE NEXT PAGE →

The feature used to divide the aircraft into two separate groups was:

- ☐ 1. Tail
- ☐ 2. Color
- ☒ 3. Body
- ☐ 4. Landing gear

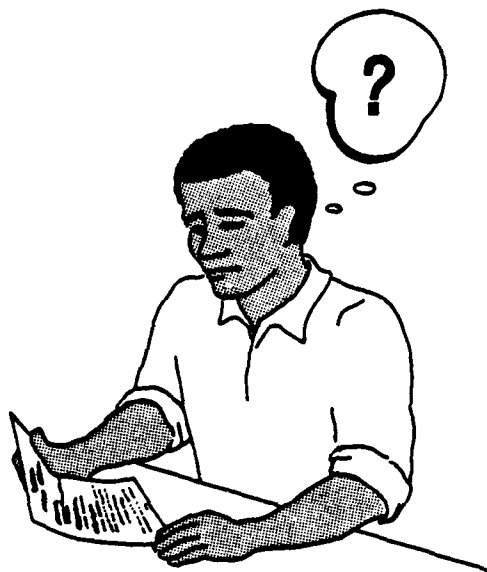
EXPLANATION:

The MIG21 and the SU19 both have more pointed noses while the SU7 and SU 20 are flat in front. The other features (tail, color, landing gear) are about the same for all four planes as they appear in your manual.

If you were able to come up with the right answers for these exercises, then you're getting the idea of how to group things.

GO ON TO THE NEXT PAGE →

You've seen how grouping can help you learn or remember certain information. In the same way, breaking up information--like the steps in a task--into smaller parts or segments can also help you remember or learn things.



For example, when you're trying to remember a long set of directions, breaking them up into smaller segments will make them easier to remember. Read the directions below for one minute and see if you can write them down without looking back at them.

Directions to
a Shopping Center

Go two blocks up the street and make a left, then go two blocks and turn right. When you get to the Pancake House, turn left again. The shopping center is about three miles up the road on the right.

GO ON TO THE NEXT PAGE →

Write down the directions as you remember them.

Have trouble remembering? Here's one way of doing it:

Directions to
a Shopping Center

Go two blocks up the street and make a left, then go two blocks and turn right. When you get to the Pancake House, turn left again. The shopping center is about three miles up the road on the right.

Just Remember:

1. Two blocks,
a left
2. Two blocks
then right,
3. Pancake House,
then left,
4. Three miles
on right.

OR:

1. 2-Left
2. 2-Right
3. Pancake
House-Left
4. 3 mi on
Right

When you break up the instructions into segments, they're easy to remember.

* * * *

The same is true for a long list of numbers, such as these:

7034386015

You could probably remember this set of numbers better if you break it down into smaller groups like this:

703

438

6015

Now you can see that the set of numbers is really a phone number, with an area code at the beginning. Try doing this the next time you need to remember any set of numbers.



Another way that breaking up information into segments can help you is when you need to learn lists of instructions and steps. If you can break up the steps into smaller groups, it's easier to learn them.

For example, read these instructions for jump-starting a car. Decide how you would break the steps into groups. Each group should have something in it that helps you remember the steps it contains.

INSTRUCTIONS
FOR JUMP-STARTING A CAR

- Step 1. Open caps on both batteries and cover wells with cloths.
- Step 2. Turn off accessories on dead car.
- Step 3. Start booster car engine.
- Step 4. Connect first cable clip to positive terminal on live battery.
- Step 5. Connect other end of the same cable to positive terminal on dead battery.
- Step 6. Connect a clip of second cable to the negative terminal of live battery.
- Step 7. Connect the other clip of the second cable to the dead car's frame.
- Step 8. Start dead car's engine.
- Step 9. Remove the cables in precisely the reverse order.
- Step 10. Replace well caps.

(REMEMBER: It's important that each step be done in the order shown to keep yourself from being hurt and the battery from being damaged.)

1. How did you divide the Instructions into groups? (Circle one)
- A. After Step 4 and after Step 7
 - B. After Step 5 and after Step 7
 - C. After Step 4 and after Step 9
 - D. After Step 3 and after Step 7.

GO ON TO THE NEXT PAGE →

The correct answer is: D (After Step 3 and after Step 7)

2. Now select the reason you think the steps were broken up into these three groups. (Circle one)

- A. By the condition of the batteries
- B. By the handling of the tools
- C. By the tasks of preparing car, placing cables and getting car started
- D. By engines that are running.

The correct answer is C.

INSTRUCTIONS
FOR JUMP-STARTING A CAR

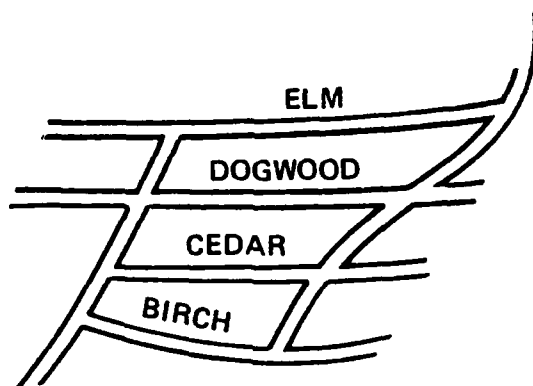
- Step 1. Open caps on both batteries and cover wells with cloths.
- Step 2. Turn off accessories on dead car.
- Step 3. Start booster car engine.
- Step 4. Connect first cable clip to positive terminal on live battery.
- Step 5. Connect other end of the same cable to positive terminal on dead battery.
- Step 6. Connect a clip of second cable to the negative terminal of live battery.
- Step 7. Connect the other clip of the second cable to the dead car's frame.
- Step 8. Start dead car's engine.
- Step 9. Remove the cables in precisely the reverse order.
- Step 10. Replace well caps.

You can see that you should remember three "getting-ready" steps, four "connecting-the-cable" steps, and three "getting-the-car-started" steps.

Breaking the steps down this way is the first thing to do when you're trying to remember how to jump-start a car.



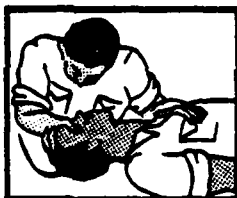
Another way to better remember certain things is to look at the order they're in and try to understand why they're in that order.



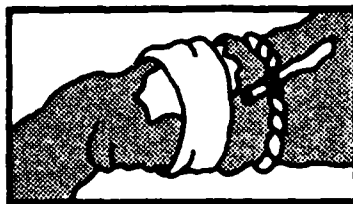
Putting steps in order can help you to remember important things, too, like the basic lifesaving techniques:

1. Get the victim breathing.

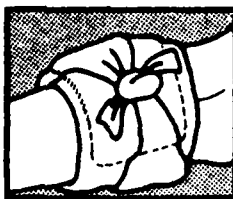
(This is clearly #1, since the victim must breathe to stay alive.)



2. Stop any bleeding. (Otherwise, the victim will bleed to death.)



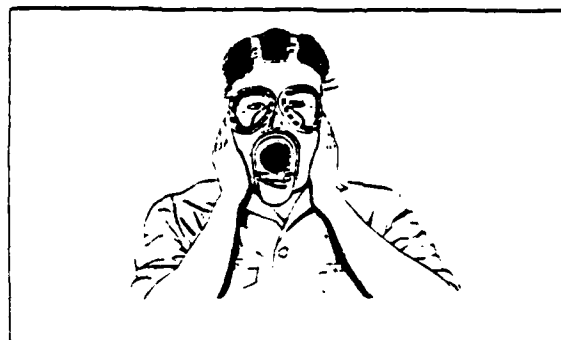
3. Prevent shock and dress any wounds. (This prevents infection.)



You can remember the order of the steps if you just think of the most serious threat to the victim being Step #1, the next most serious being Step #2, and so on.

Now try an exercise. Listed below are the first four steps in putting on your M17 series protective mask with hood. The steps have been mixed up. Look at them carefully.

- 1) Open carrier and remove mask.
- 2) Clear the mask.
- 3) Stop breathing and remove headgear.
- 4) Open facepiece, put chin in chin pocket and bring harness over head.



Even if you've never seen the steps before, you should be able to put them in order. Look over the steps and decide which should come first, then second, third and fourth. When you think you've put them in the correct order look at the correct answer on the next page.

GO ON TO THE NEXT PAGE →

The correct order is:

- Step 1 - Stop breathing and remove headgear.
- Step 2 - Open carrier and remove mask.
- Step 3 - Open face piece, put chin in chin pocket, and bring harness over head.
- Step 4 - Clear the mask.

Keep going! Listed below are four more steps in putting on and wearing the M17 Series protective mask. Look them over and put them in the correct order.

- 1) Put on headgear and close mask carrier.
- 2) Check the mask.
- 3) Pull back of hood up over head, down over shoulders and zip front closed.
- 4) Pull draw cord slider snug, fasten and adjust underarm straps.

When you're done, turn to the next page to see the correct answer.

The correct answer is:

Step 1 - Check the mask.

Step 2 - Pull back of hood up over head, down over shoulders and zip front closed.

Step 3 - Pull cord slider snug, fasten and adjust underarm straps.

Step 4 - Put on headgear and close mask carrier.

If you think about it, the steps were put in the order in which they logically happen. If you can see the natural order of steps in a task, it can help to make the task easier to learn.



You've seen that in a lot of cases, grouping can help you to learn certain things more quickly and to remember them better. With grouping, you can divide things up into groups to remember them (like steps in a task, a list of directions, or a series of numbers) or put things in logical order (like steps in a first aid procedure). So the next time you are trying to learn new information, like steps in a procedure, or facts, remember to use grouping!

F
RELAXATION
HANDBOOK

RELAXATION HANDBOOK

GOALS

- (1) You will know the steps for the muscle relaxation exercise.
- (2) You will know the steps for the slow deep-breathing exercise.
- (3) You will know the basic steps for overall relaxation.
- (4) You will be able to carry out the steps for muscle relaxation, slow deep breathing and overall relaxation in a home practice situation.

MATERIALS NEEDED

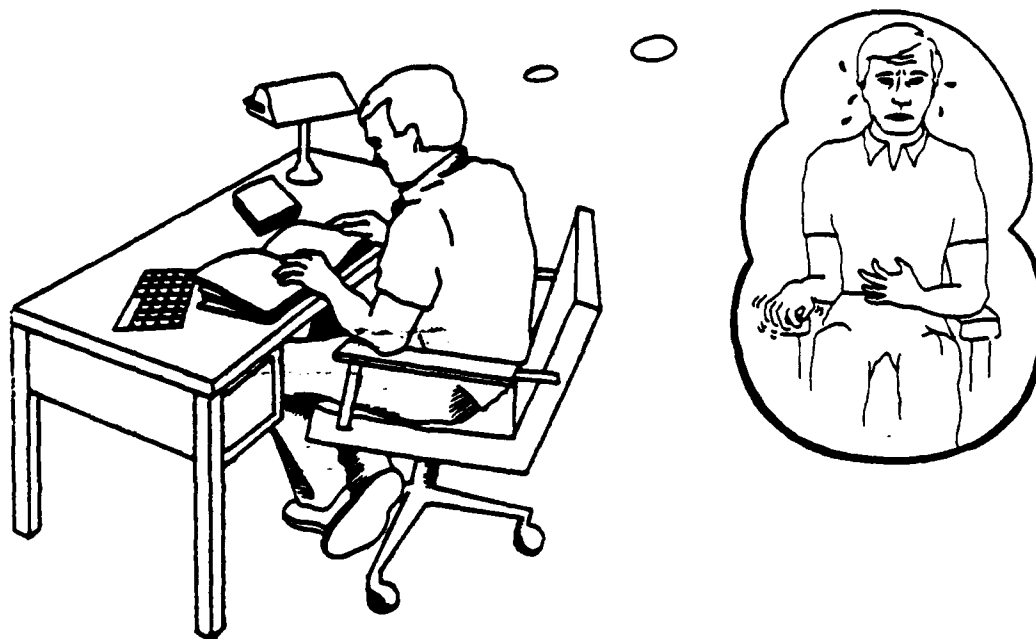
- (1) This Handbook
- (2) Pencil and paper (for notes)
- (3) Relaxation Home Practice (booklet)

GLOSSARY

- DISTRACTED - To be confused or to have your attention taken away from something
- TENSION - Mental or nervous strain
- ANXIETY - Uneasiness or worry about what might happen
- DISTRACTION - Anything that takes your mind off what you are doing
- REACTION - An action that is caused by another action or actions
- SYMPTOM - A sign or signal that warns or indicates that something else exists.
- ANXIOUS - Having anxiety or worry; uneasy
- CONCENTRATION - Close or fixed attention

RELAXATION
AND
TEST ANXIETY

Getting slightly nervous before a test is natural. It happens automatically--without your even thinking about it. What isn't natural is getting so nervous and tense that your mind wanders and you become distracted and even more uncomfortable. When you're overcome by these feelings of tension, you cannot be alert and aware like you need to be.



So it's when tension gets out of control that it can get in your way. When this physical distraction interferes with your studying for or performing on a test, you have what we call "test anxiety."

* * * * *

* TEST ANXIETY *

* A physical and emotional *

* reaction to the threat *

* of taking a test. *

* * * * *

We've listed below some of the common symptoms people have when they have test anxiety. As you read through the list, put a checkmark (✓) next to any of the symptoms that YOU have felt before or during a test.

SYMPTOMS OF TEST ANXIETY	
<input type="checkbox"/>	• Sweaty or shaky hands
<input type="checkbox"/>	• Stiff neck
<input type="checkbox"/>	• Heavy, rapid breathing
<input type="checkbox"/>	• Headache
<input type="checkbox"/>	• Dry mouth
<input type="checkbox"/>	• Mind going blank or wandering
<input type="checkbox"/>	• Upset stomach
<input type="checkbox"/>	• Fast heartbeat
<input type="checkbox"/>	• Confusion
<input type="checkbox"/>	• Chills or goosebumps
<input type="checkbox"/>	• Forgetfulness
<input type="checkbox"/>	• Lack of concentration
<input type="checkbox"/>	• Weakness or shakiness

Chances are that if you have felt these symptoms when you have taken tests and you believe these feelings have kept you from doing your best, you have test anxiety.

Here's what other soldiers have said about how they feel before and during tests:

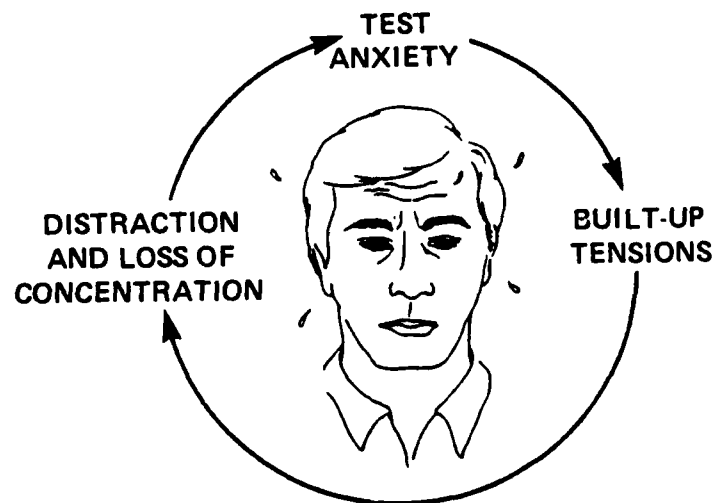
"You have so many things going through your mind at one time that you forget--you lose everything"

"Walking up to the building to take a test, your stomach feels really light, there's stuff going through your mind..."

"You sweat. You get headaches. I always get headaches--and my mind goes blank."

"It's because it's a test. If I had to do it on my own, there wouldn't be a problem. But somebody says 'it's a test' and all of a sudden I get an upset stomach and get really shaky."

The built-up tensions just described can create problems. When you are overwhelmed by anxiety, you can't concentrate on what you have to do, such as studying for or performing on a test. The more you become distracted (lose your concentration), the more test anxious you become.



* RELAX → REDUCE ANXIETY → IMPROVE ON TESTS *

However, test anxiety CAN be controlled. There are ways to get directly from an anxious state to a relaxed one. Since you can't be both tense and relaxed at the same time, the trick is to do something that relaxes you--so that the tension has to go away.

TEST ANXIETY CAN BE CONTROLLED



ANXIOUS STATE



RELAXED STATE

Using relaxation exercises before a test can help you reduce your anxiety. The basic steps take only a few minutes to learn. With practice you'll soon be able to reduce your anxiety quickly, anywhere you are.

This handbook describes the basic steps for two relaxation exercises:

- 1) Muscle relaxation
and
- 2) Slow deep breathing.

With a little practice you'll soon be able to reduce tension and control your anxiety whenever you need to, but especially:

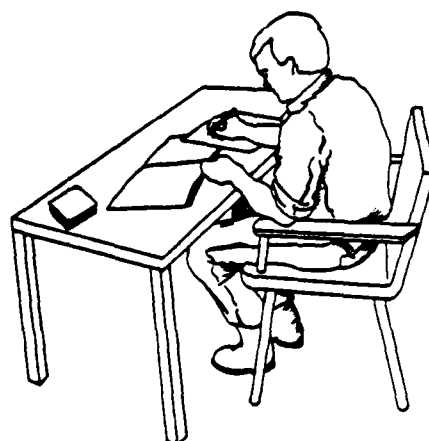
- While studying for a test ...



- While waiting for a test to begin ...



- Or during a test.



REVIEW SECTION

Before you start the next section, take a few minutes to briefly review the major points of the material you've just read:

- Strong feelings of nervousness and tension can prevent you from being alert and aware.
- Test anxiety is a physical and emotional reaction to the threat of taking a test.
- Some of the common signs of test anxiety include:
 - Stiff neck
 - Loss of concentration
 - Upset stomach
 - Weakness or shakiness
 - Sweating
 - Headache
 - Chills or goosebumps
 - Forgetfulness
 - Confusion
- Test anxiety can be controlled by changing from a tense, anxious state to a relaxed one. Two techniques for learning to relax include:
 - 1) Muscle relaxation and
 - 2) Slow deep breathing.

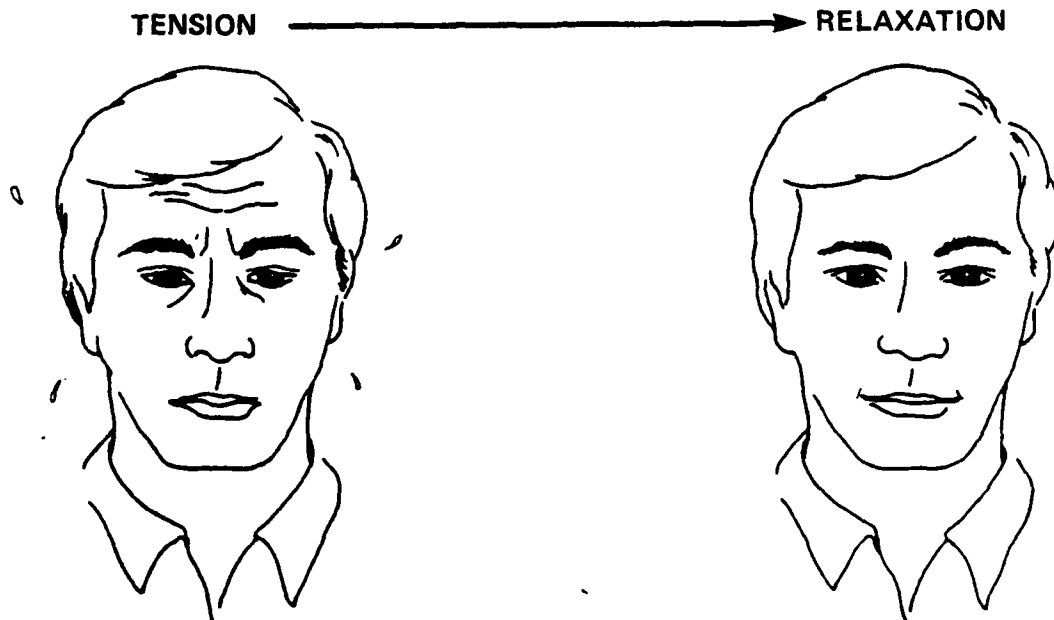
In this next section we will describe the step-by-step procedures for practicing muscle relaxation and slow deep breathing, and describe the basic steps for overall relaxation that you can use any time you want to relax.

GO TO NEXT PAGE



MUSCLE RELAXATION

Earlier we said that the "trick" to controlling your test anxiety is to do something that gets you from an anxious, tense state to a relaxed one. In order to do this, you must first be able to tell the difference between tension and relaxation in your body.



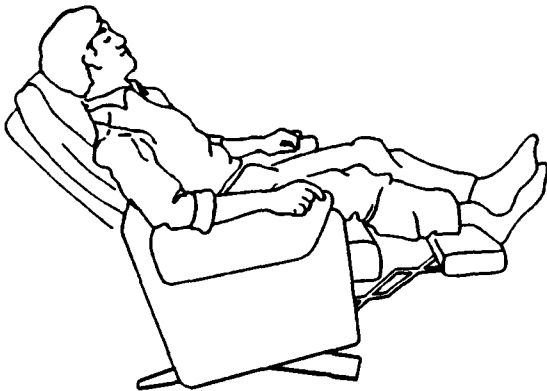
The purpose of the muscle relaxation exercises that follow is to help you feel the difference between tension and relaxation. Once you are able to recognize this difference, you will be able to go quickly from being tense to being relaxed--no matter where you are or what you are doing.

GO TO NEXT PAGE →

BEFORE YOU START ...

While learning these exercises or while practicing them at home, it's a good idea to "prepare" yourself for relaxing. (Later, when you are more familiar with the exercises, you'll be able to do them any time you want.)

To prepare yourself:



- FIND A QUIET ROOM
- DIM THE LIGHTS OR
DARKEN ROOM (if possible)
- MAKE YOURSELF AS COMFORTABLE AS POSSIBLE
 - use a comfortable bed, sofa or chair
 - wear loose, comfortable clothing
 - take off shoes, glasses, watch, etc.

The next step after you have made yourself comfortable is to perform the muscle relaxation exercises. Remember, the purpose of these exercises is to *help you feel the difference between tension and relaxation in your muscles.*

GO TO THE NEXT PAGE



Read and follow each step as it listed.

RELAXATION FOR MUSCLES IN HANDS AND FOREARMS

- Step 1. Make very tight fists.
Hold the tension for 7 seconds,
noticing how it feels.

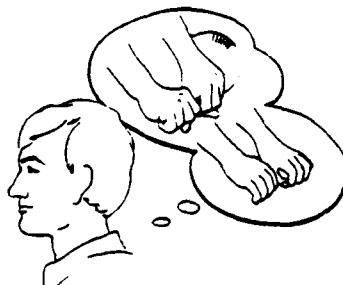


- Step 2. Now relax fists. Release tension
immediately, not gradually.



- Step 3. Remember how relaxed muscles in
your arms and hands feel. Enjoy
the feeling.

- Step 4. Compare this relaxed feeling to
how the tensed muscles felt.



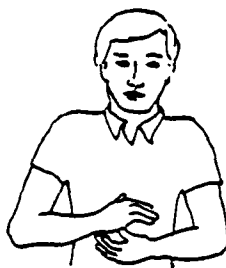
REPEAT THE STEPS, THEN GO ON
TO THE NEXT MUSCLE GROUP.

RELAXATION FOR MUSCLES IN UPPER ARMS

- Step 1. Press heels of your palms together as hard as possible. *Hold the tension for 7 seconds, noticing how it feels.*

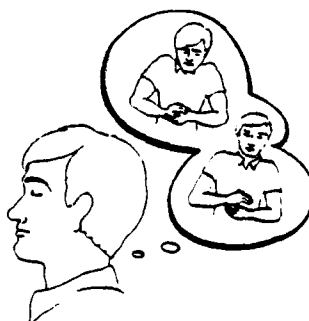


- Step 2. Now relax upper arms. Release tension *immediately*, not gradually.



- Step 3. Remember how relaxed muscles in upper arms feel. Enjoy the feeling.

- Step 4. Compare this relaxed feeling to how the tensed muscles felt.



REPEAT THE STEPS, THEN GO ON
TO THE NEXT MUSCLE GROUP.

RELAXATION FOR NECK MUSCLES

NOTE: This exercise not only loosens the neck muscles, it can also reduce headaches caused by muscle tension.

- Step 1. Pull your chin toward your chest, using your front neck muscles-- while at the same time pulling your head back using the muscles in the back of your neck. *Hold the tension for 7 seconds*, noticing how it feels.

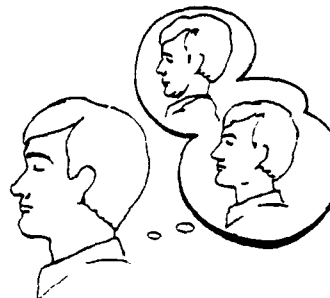


- Step 2. Now relax neck muscles. Release tension immediately, not gradually.



- Step 3. Remember how relaxed the muscles in your neck feel. Enjoy the feeling.

- Step 4. Compare this relaxed feeling to how the tensed muscles felt.



REPEAT THE STEPS, THEN GO ON
TO THE NEXT MUSCLE GROUP.

RELAXATION FOR MUSCLES IN BACK AND SHOULDERS

- Step 1. Pull your shoulders back as though you were trying to touch your shoulder blades together. *Hold the tension for 7 seconds, noticing how it feels.*

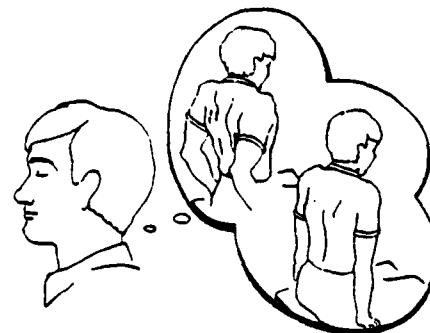


- Step 2. Now relax the back and shoulder muscles. Release tension immediately, not gradually.



- Step 3. Remember how relaxed the muscles in your shoulders and upper back feel. Enjoy the feeling.

- Step 4. Compare this relaxed feeling to how the tensed muscles felt.



REPEAT THE STEPS.

Now go on to the next section on the procedure for slow deep breathing. Read through the step-by-step procedure, practicing as you go along.

GO TO NEXT PAGE



SLOW DEEP BREATHING

Now that you have relaxed your muscles, you are ready to start slow deep breathing. This is an excellent way to slow the heart rate--which reduces tension and increases the feeling of relaxation.

SLOW DEEP BREATHING → SLOWS HEART RATE → REDUCES TENSION → INCREASES RELAXATION

Read through, then follow the four steps listed below:

SLOW DEEP BREATHING PROCEDURE

STEP 1. With eyes closed, inhale deeply for a count of 3,



STEP 2. Hold your breath for a count of 3.



STEP 3. Slowly exhale for a count of 5.



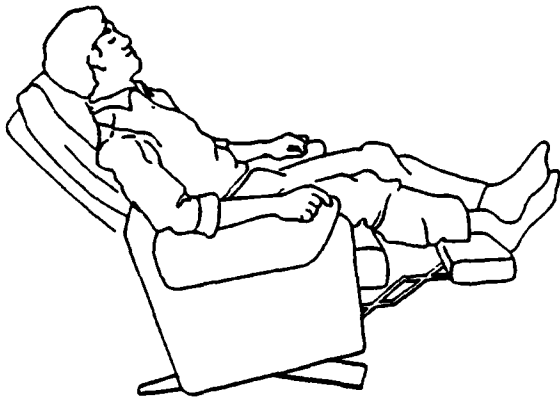
STEP 4. Think "CALM" and "RELAX" while you're exhaling, keeping your eyes closed.



MUSCLE RELAXATION

PRACTICE EXERCISE

Now go through both the muscle relaxation exercises and the slow deep breathing exercise on your own. To aid you in doing this, the basic steps have been outlined below. If you want, you may refer back to the detailed steps on pages 10 through 13.



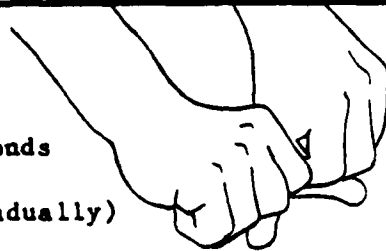
To Prepare:

- FIND A QUIET ROOM
- DIM THE LIGHTS OR DARKEN ROOM (if possible)
- MAKE YOURSELF AS COMFORTABLE AS POSSIBLE
 - use a comfortable bed, sofa or chair
 - wear loose, comfortable clothing
 - take off shoes, glasses, watch, etc.

NOW START MUSCLE RELAXATION EXERCISES

HANDS AND FOREARMS

- Make Fists--hold for 7 seconds
- Notice tension
- Relax (immediately, not gradually)
- Remember relaxed feeling
- Compare relaxed feeling to tensed feeling



UPPER ARMS

- Press heels of palms together very hard; hold for 7 seconds
- Notice tension
- Relax (immediately, not gradually)
- Remember relaxed feeling
- Compare relaxed feeling to tensed feeling



NECK

- Pull chin toward chest; at same time pull head back; hold for 7 seconds
- Notice tension
- Relax (immediately, not gradually)
- Remember relaxed feeling
- Compare relaxed feeling to tensed feeling



SHOULDERS

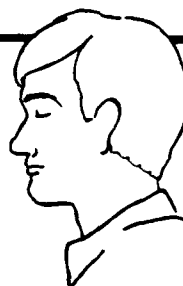
- Pull shoulders back, as though touching shoulder blades together--hold for 7 seconds
- Notice tension
- Relax (immediately, not gradually)
- Remember relaxed feeling
- Compare relaxed feeling to tensed feeling



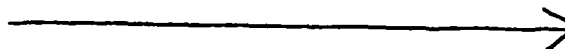
Now practice the slow deep breathing technique. To aid you in doing this, the basic steps have been repeated below.

SLOW DEEP BREATHING

- Inhale deeply for a count of 3
- Hold your breath for a count of 3
- Slowly exhale for a count of 5
- Think "CALM" and "RELAX" while you're exhaling



Now go on to the next section



OVERALL RELAXATION TECHNIQUE

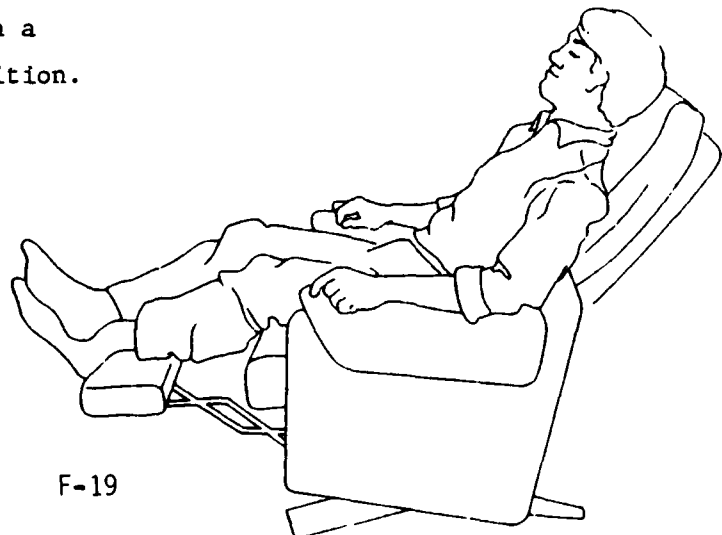
Now that you have learned two exercises that will help you relax and reduce your anxiety, read through the basic steps for overall relaxation. These are the steps that you will follow once you are completely familiar with the techniques for muscle relaxation and slow deep breathing. You will have a chance to practice these steps later during the Relaxation Home Practice. It is not recommended that you use this technique late at night when you are very tired!

BASIC STEPS FOR RELAXATION

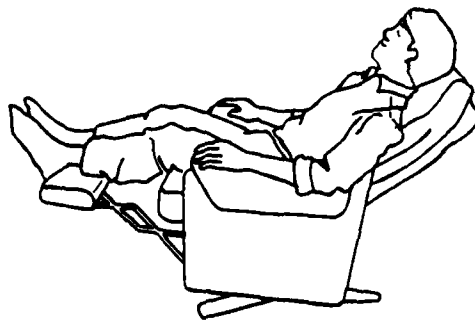
- Take your attention completely away from what you are doing (reading, studying). Think about something pleasant and relaxing--such as your last vacation, or a quiet, peaceful setting (a sunset, the seashore).



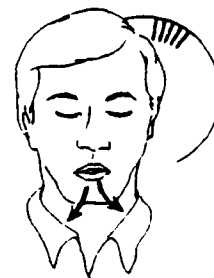
- Settle into your chair in a comfortable, relaxed position. Close your eyes.



- Relax your body by letting all
Your muscles go loose and heavy.



- Take a very deep breath for 3 seconds. Hold it for
3 seconds, then very slowly let it out for 5 seconds.
Repeat this once or twice, keeping your eyes closed.



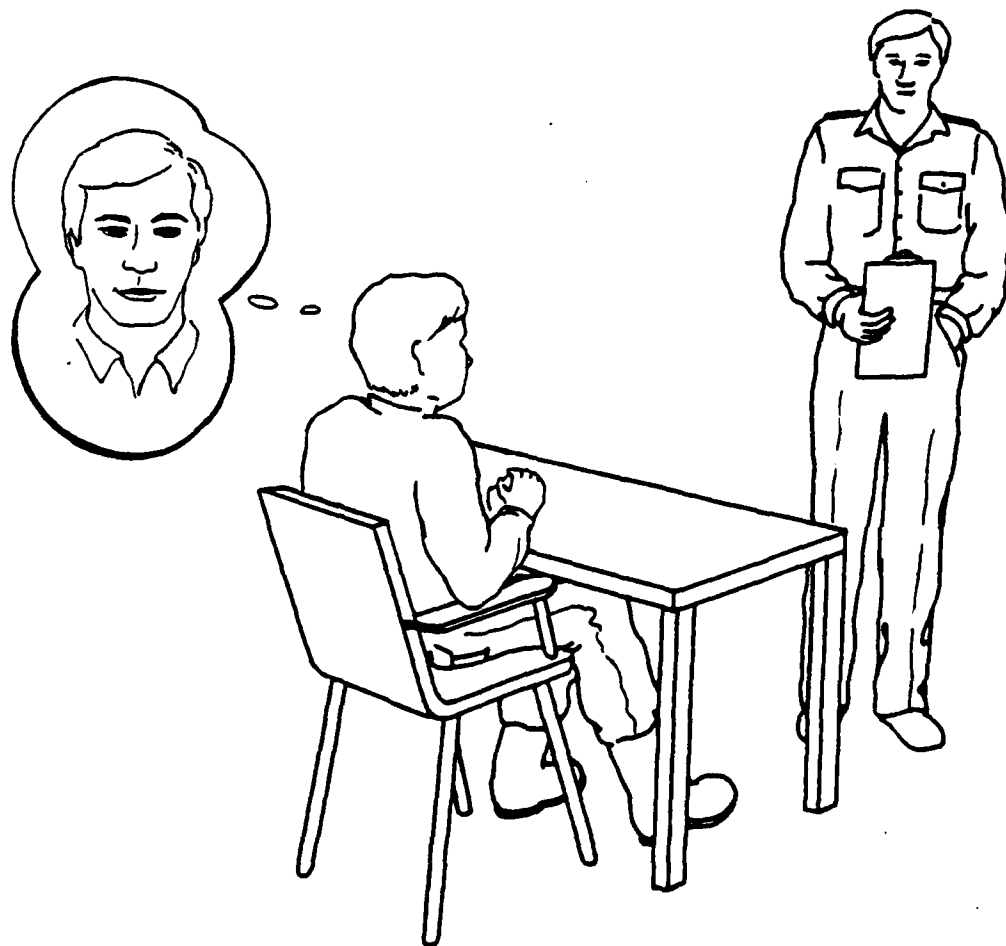
- Think silently to yourself
the words "CALM" and "RELAX"
as you slowly let out your breath.



- Go back to studying or reading,
refreshed and relaxed.



Remember, practice is very important in helping you become good at relaxing. You can't expect results right away, but with practice, you'll soon be able to get relaxed very quickly--anywhere you are!



G

RELAXATION HOME PRACTICE

RELAXATION HOME PRACTICE

Instructions

To become good at relaxing, you'll need to practice the relaxation and deep breathing exercises and the steps for overall relaxation on your own. The steps that follow were taken from the Relaxation Handbook. This home practice handbook is for you to keep.

HOME PRACTICE

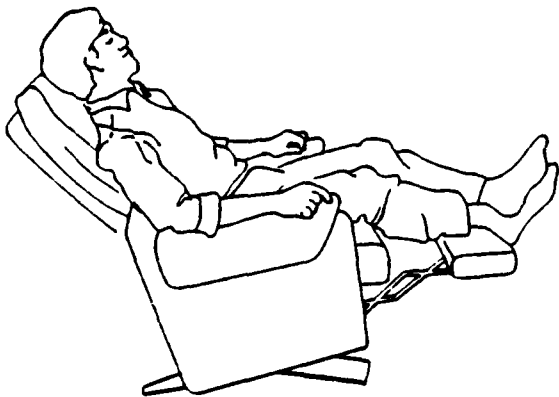
WHERE: At home, at the library, or anywhere you can find a peaceful, comfortable setting.

WHEN: At least twice a day, 15 minutes each time.

Practice every day until you know the steps by heart!

PART I

MUSCLE RELAXATION



- FIND A QUIET ROOM
- DIM THE LIGHTS OR DARKEN ROOM (if possible)
- MAKE YOURSELF AS COMFORTABLE AS POSSIBLE
 - use a comfortable bed, sofa or chair
 - wear loose, comfortable clothing
 - take off shoes, glasses, watch, etc.

Part I (continued)

Now perform the muscle relaxation exercises. The purpose of these exercises is to *help you feel the difference between tension and relaxation in your muscles.* Read and follow each step as it is listed.

RELAXATION FOR MUSCLES IN HANDS AND FOREARMS

- Step 1. Make very tight fists. *Hold the tension for 7 seconds, noticing how it feels.*

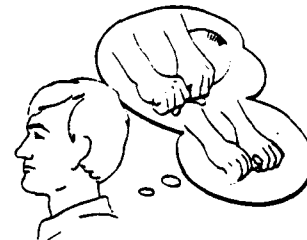


- Step 2. Now relax fists. Release tension immediately, not gradually.



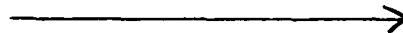
- Step 3. Remember how relaxed muscles in your arms and hands feel. Enjoy the feeling.

- Step 4. Compare this relaxed feeling to how the tensed muscles felt.



REPEAT THE STEPS,
THEN GO ON TO THE NEXT MUSCLE GROUP

GO TO THE NEXT PAGE



RELAXATION FOR MUSCLES IN UPPER ARMS

- Step 1. Press heels of your palms together as hard as possible. *Hold the tension for 7 seconds, noticing how it feels.*

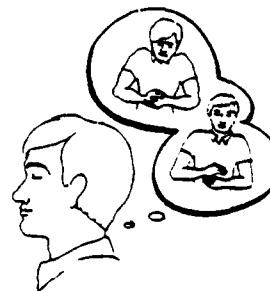


- Step 2. Now relax upper arms. Release tension immediately, not gradually.



- Step 3. Remember how relaxed muscles in upper arms feel. Enjoy the feeling.

- Step 4. Compare this relaxed feeling to how the tensed muscles felt.



REPEAT THE STEPS,
THEN GO ON TO THE NEXT MUSCLE GROUP.

GO TO NEXT PAGE

RELAXATION FOR NECK MUSCLES

NOTE: This exercise not only loosens the neck muscles, it can also reduce headaches caused by muscle tension.

- Step 1. Pull your chin toward your chest, using your front neck muscles-- while at the same time pulling your head back using the muscles in the back of your neck. *Hold the tension for 7 seconds*, noticing how it feels.

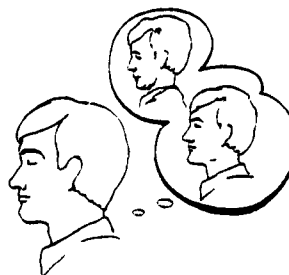


- Step 2. Now relax neck muscles. Release tension *immediately*, not gradually.



- Step 3. Remember how relaxed the muscles in your neck feel. Enjoy the feeling.

- Step 4. Compare this relaxed feeling to how the tensed muscles felt.



REPEAT THE STEPS, THEN GO ON
TO THE NEXT MUSCLE GROUP.

GO TO NEXT PAGE



RELAXATION FOR MUSCLES IN BACK AND SHOULDERS

- Step 1. Pull your shoulders back as though you were trying to touch your shoulder blades together. *Hold the tension for 7 seconds, noticing how it feels.*



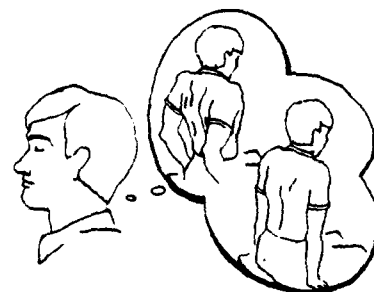
- Step 2. Now relax the back and shoulder muscles. Release tension ~~im~~mediately, not gradually.



- Step 3. Remember how relaxed the muscles in your shoulders and upper back feel. Enjoy the feeling.

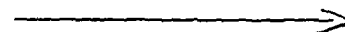
- Step 4. Compare this relaxed feeling to how the tensed muscles felt.

REPEAT THE STEPS.



Now go on to the next section on the procedure for slow deep breathing. Read through the step-by-step procedure, practicing as you go along.

GO TO NEXT PAGE



SLOW DEEP BREATHING PROCEDURE

- Step 1. Inhale deeply for a count of 3
- Step 2. Hold your breath for a count of 3
- Step 3. Slowly exhale for a count of 5
- Step 4. Think "CALM" and "RELAX" while you're exhaling, keeping your eyes closed.



Step 1



Step 2



Step 3



Step 4

REPEAT THESE EXERCISES TWICE A DAY UNTIL YOU CAN RELAX AND
BREATH DEEPLY WITHOUT HAVING TO READ THESE INSTRUCTIONS.
THEN, GO ON TO PART 2: OVERALL RELAXATION.

GO TO NEXT PAGE



PART II:
OVERALL RELAXATION

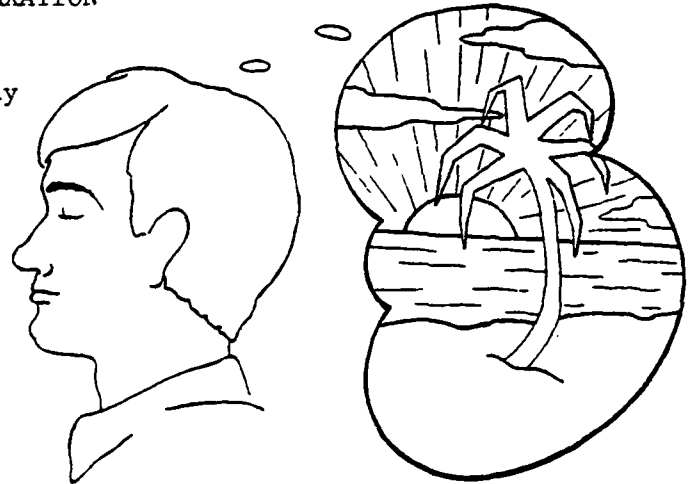
Now that you know the steps for muscle relaxation and slow deep breathing, apply what you have learned as you practice overall relaxation.

WHERE: In a study or "work" chair with a text book or study materials.

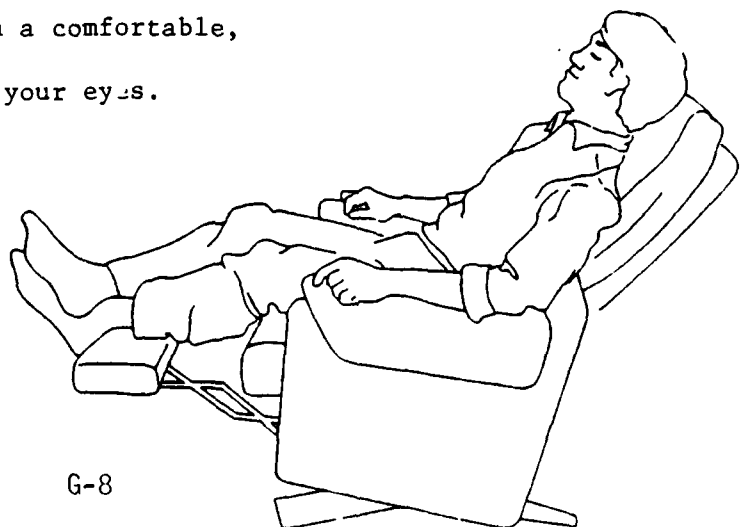
WHEN: Once a day for 15 minutes.

BASIC STEPS FOR RELAXATION

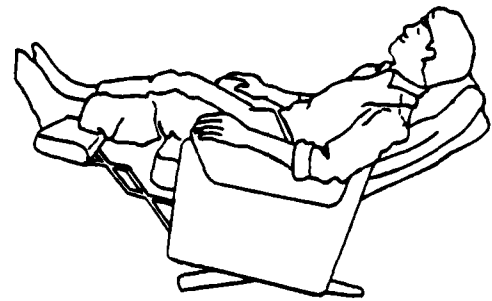
- Take your attention completely away from what you are doing (reading, studying). Think about something pleasant and relaxing--such as your last vacation, or a quiet peaceful setting (a sunset, the seashore).



- Settle into your chair in a comfortable, relaxed position. Close your eyes.



- Relax your body by letting all your muscles go loose and heavy. If you're not sure whether they are relaxed, tense them first, hold the tension, then "let go" entirely.



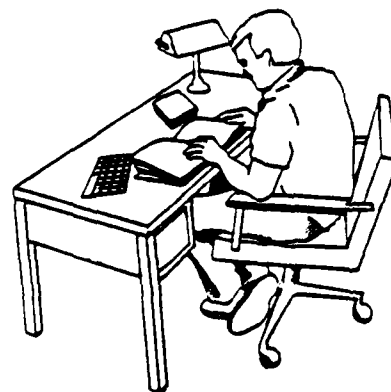
- Take a very deep breath for 3 seconds. Hold it for 3 seconds, then very slowly let it out for 5 seconds. Repeat this once or twice, keeping your eyes closed.



- Think silently to yourself the words "CALM" and "RELAX" as you slowly let out your breath.



- Go back to studying or reading, refreshed and relaxed!



You are now well on your way to relaxing whenever you need to,
no matter where you are. Use the procedure especially before and during
tests to get rid of tension and anxiety -- it will help!



H

POSITIVE SELF-TALK

HANDBOOK

POSITIVE SELF-TALK HANDBOOK

GOALS

- (1) You will be able to recognize examples of negative self-talk.
- (2) You will be able to recognize examples of positive self-talk.
- (3) You will be able to replace negative self-talk with positive self-talk.
- (4) You will be able to use positive self-talk to help control your test anxiety.

MATERIALS

- (1) This Handbook
- (2) Pencil and paper (for notes)

GLOSSARY

- REACTION - An action that is caused by another action (or actions).
- AUTOMATIC REACTION - Something that is done or happens without your thinking about it.
- THREATENED - The way you feel when you think that something dangerous or bad is going to happen to you.
- THREAT - The possibility that something bad is going to happen to you; a sign of danger or distress.
- MENTAL BLOCK - Anything that stops you from thinking and causes you to forget something.

POSITIVE SELF-TALK

During Testing

Do you get nervous when you take a test? If you're like a lot of people, the answer is yes. After all, a lot can depend on the score or grade we get.



There's a name for this nervousness -- you may have heard of it before. It's called "test anxiety" -- a physical and emotional reaction to the threat of taking a test.

```
* * * * *
*      TEST ANXIETY      *
*  A physical and emotional  *
*  reaction to the threat   *
*  of taking a test.       *
* * * * *
```

Test anxiety is a little like death and taxes -- we can't escape it, but we can control it. First, we have to know what it is.

* * * * *
 * ANXIETY - *
 * Uneasiness or worry *
 * about what might happen *
 * * * * *

Basically, anxiety is an automatic reaction to anything that seems
 scary -- like taking tests. You may feel threatened by the test questions
 because the wrong answer means failure.



As a result, your body reacts physically
 and emotionally to the threat. Maybe your
 hands sweat or get shaky, or you feel a big
 knot in your stomach ...



Maybe you can't think or remember anything. The test looks
 confusing. You try to fight the feeling, but fighting it only makes
 things worse.

Those are just some of the reactions to test anxiety -- reactions that may seem to "attack" you without warning.



When other soldiers were asked, "What happens to you when you take a test?" they answered:

"My mind goes blank. I can't remember anything."

"I can study the night before and know my material, but when it comes to taking the test, I can't hang with it. I fall apart."

"I know when I take a test somebody's going to do better than I am, so why try?"

"I get really scared. My friends don't have the same problem with taking tests that I do. They must be a lot smarter than I am."

The statements you just read describe feelings of anxiety before tests. As we said before, a lot of our test anxiety happens automatically--almost by itself. But many times, we make it worse. How? By telling ourselves how awful things are--and believing it!



There's a word for this "tearing down" of ourselves. It's called "negative self-talk." It's one way to handle anxiety, but it's not the right way!

```

* * * * *
*   NEGATIVE SELF-TALK   *
*
* Things you think or say *
* to yourself that make  *
* you feel unsure about  *
* your abilities.        *
* * * * *
  
```


Think about what you are saying to yourself when you're nervous about a test. Things can't get better if you're imagining the worst. When you negative self-talk, you're practicing to fail.



What happens to you just before or during a test? Take a few minutes to write down your feelings and thoughts. Don't worry about spelling or grammar. The idea here is just to get your thoughts on paper. Put down everything that comes to mind.

Now look over what you've written and circle anything that sounds like negative self-talk. Write that number in the box at the left below. Now look for the positive statements you've made to yourself. Write that number in the box to the right below. If you're like a lot of people, there are probably more negative than positive statements.

NUMBER OF NEGATIVE
STATEMENTS

NUMBER OF POSITIVE
STATEMENTS

So what can you do about it? Well, if you can actively create test anxiety, you can actively reduce it! Change the way you talk to yourself by using positive self-talk. That way you get your mind off you and onto the task at hand -- taking a test.

```
* * * * *
*   POSITIVE SELF-TALK   *
*   A way of thinking or  *
*   talking to yourself   *
*   that makes you feel   *
*   more sure of your     *
*   abilities.            *
* * * * *
```

GO TO NEXT PAGE



Below, on the left side, are some examples of negative self-talk. On the right side are examples of positive self-talk. Take a few minutes to read over the ones we've provided and fill in the last three examples with your own examples of positive self-talk.

Negative Self-Talk

1. The minute I open that test booklet I'm going to freeze!
2. I'm going to blow it!
3. There's no point in even starting this thing. I don't even know the answer to the first question.
4. Oh God, I've forgotten everything and I studied so hard!

Positive Self-Talk

1. No you won't, you have control over what you're doing. Don't make yourself nervous. Relax and keep your mind on the test.
2. Now cool it! You've just started the test and already you're getting upset. You've studied for this, so relax and do your best.
3. Then go on to the next question and come back to this one later. Don't get hung up on one question.
4. Yes, you did study hard -- and you know this stuff. Just slow down and read each question carefully.

Now fill in the blanks on the right with an example of positive self-talk.

5. There's no way I can get that promotion if I fail this test.
6. All that studying -- for nothing!
7. I'm so stupid!!

5. _____

6. _____

7. _____

Here are some other examples of positive self-talk. After reading them over, write a few of your own in the space below.

"Relax! Slow down. Do the best you can."

"I can handle this test. I'm going to calm down and get to work."

"Cool it! Forget about me. Pay attention to the test!"

"I can pass any test. All I have to do is study for it and give it my best shot."

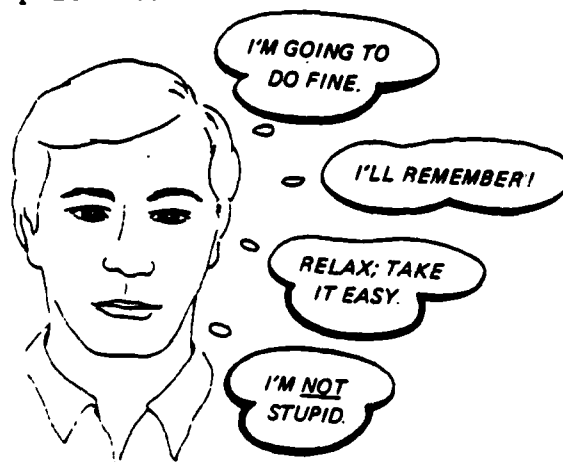
"Wait a minute! You're making yourself screw up. You're not thinking of the test. You're thinking of everything but the test."

"Now come on, you've studied this. You know this stuff."

GO TO NEXT PAGE



As you can see, you CAN change the way you talk to yourself. When you replace negative self-talk with positive self-talk, your anxiety will lessen. But it takes practice.



To help you practice, turn back to page 7 and re-read the thoughts and feelings you wrote down. For each negative statement, see if you can come up with some examples of positive self-talk. Again, don't worry about spelling or grammar! Just replace the negative with the positive.

PRACTICE EXERCISE

Read the following situation and follow the directions at the end.

Situation

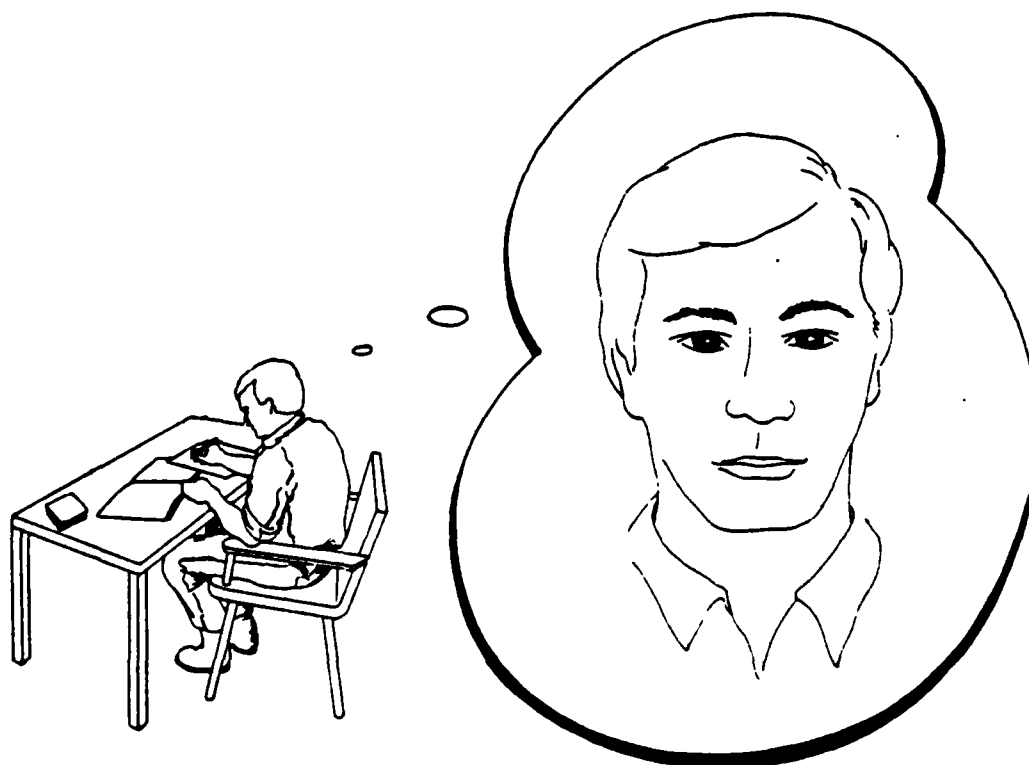
Stan failed a test for the second time. His instructor knew that Stan had studied hard. He couldn't understand why Stan just seemed to freeze up on the test. The instructor asked Stan if he wanted to talk over his problem.

Stan was upset about his problem and was glad to talk about it. He explained, "I don't know why I get so uptight when I sit down to take a test. It's like I'm all out of control. I get so scared sometimes I almost feel like I'm going to pass out. I forget everything I learned. It's like I have a real mental block."

The instructor helped Stan to understand that he was feeling real pressure to do well. Failing this course would mean that Stan couldn't get the promotion he wanted. The problem, however, was that Stan would worry about these pressures. He would tell himself how awful it would be if he failed. He would even picture in his mind how bad he would feel. With all this negative thinking and self-talk, he was so upset that, by the time he sat down to take the test, he couldn't remember anything and could only think about how out of control he was.

Try to think of some positive things Stan can tell himself. Write this in the space below. If you need more space, go on to the following page.

Now try using what you have learned. The next time you're studying for or taking a test, remember positive self-talk. Once you get the feel for it, you'll never have to worry about test anxiety again. The next time you'll be in control of your anxiety!



I

TEST WISENESS

**TIPS FOR TAKING
MULTIPLE CHOICE TESTS**

HANDBOOK

TEST WISENESS

HANDBOOK

GOALS

- (1) You will know some basic test-taking tips that can be used in the following situations:
 - (a) when getting ready to take a test; and
 - (b) during a test.
- (2) You will know how these tips can help you improve on written tests.
- (3) You will be able to use these tips when you take a multiple choice test.

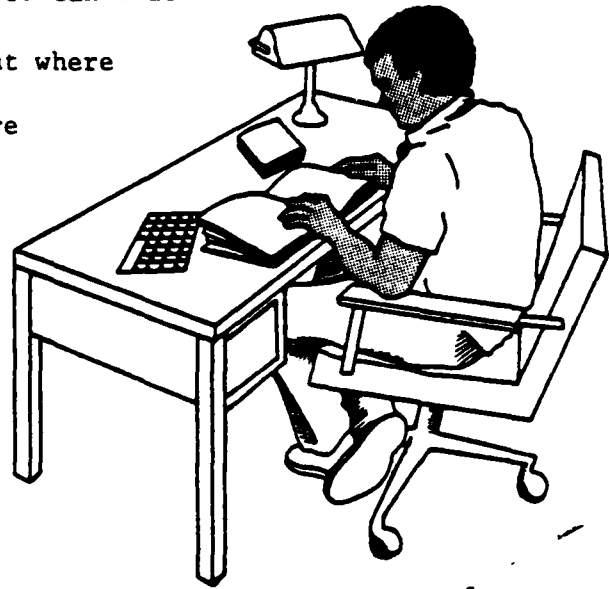
MATERIALS NEEDED

- (1) This Handbook
- (2) A Pencil

TEST-TAKING TIPS

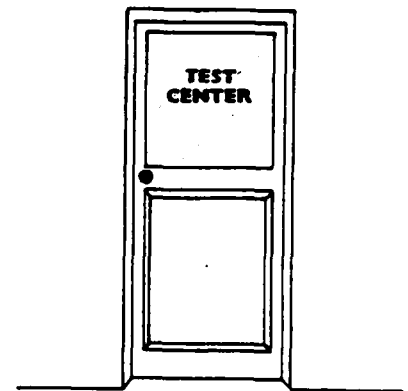
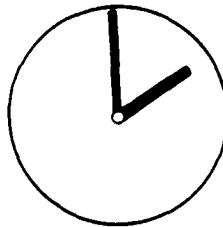
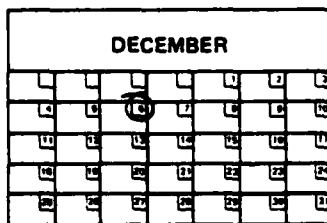
We all know that to do your best on a test, you have to study. But did you know that knowing how to take tests can also help you do well on them? Test taking is a skill--a skill you can learn.

It's common sense things like finding out where the test is being given and getting there on time. In this handbook, you'll be given some tips for taking tests--tips that should help you to score better on written tests.



Before the Test Starts . . .

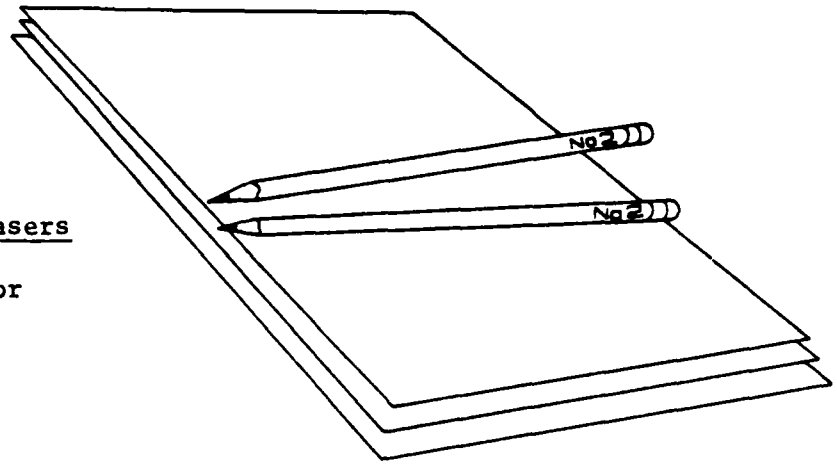
FIND OUT WHERE TEST IS BEING GIVEN AND GET THERE AHEAD OF TIME.



- Find out ahead of time the date, time and location of the test so that you can get there a few minutes early to prepare. If you're driving to the test, allow even more time than you think you need because you may have to spend a lot of it looking for a parking space.
- Pick a seat away from anything that could take your mind off the test, such as windows, open doors, or your buddies.

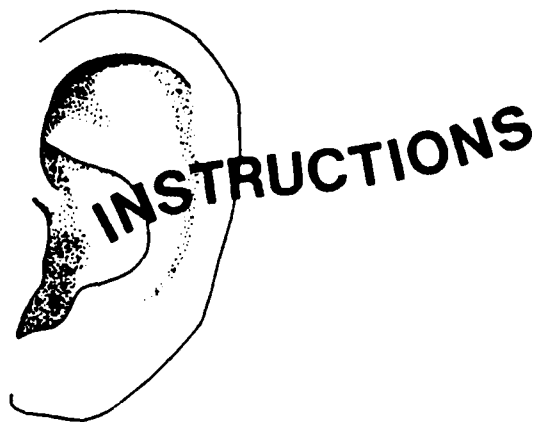
BRING PENCILS AND PAPER (AND ANYTHING ELSE YOU WILL NEED).

- Be sure you've got two sharp #2 pencils with erasers and some scratch paper for notes.



LISTEN CAREFULLY TO THE INSTRUCTIONS.

- Fill out the test form exactly as the test monitor tells you to.



IF YOU HAVE ANY QUESTIONS, ASK!

- If you're not sure about something--
anything--on the test, ask the test
monitor. That's what he or she is
there for. Don't be afraid to ask.



FIGURE OUT ABOUT HOW MUCH TIME YOU HAVE FOR EACH QUESTION.

- After you have been given the signal to start the test:
 - Look to see how many questions there are.
 - Divide the number of minutes you have to complete the test by the number of questions.
- Allow time (about 5-10 minutes) to check over your answer sheet.

EXAMPLE

If there are 30 questions to answer and you have one hour (60 minutes) to take the test, divide the number of minutes by the number of questions:

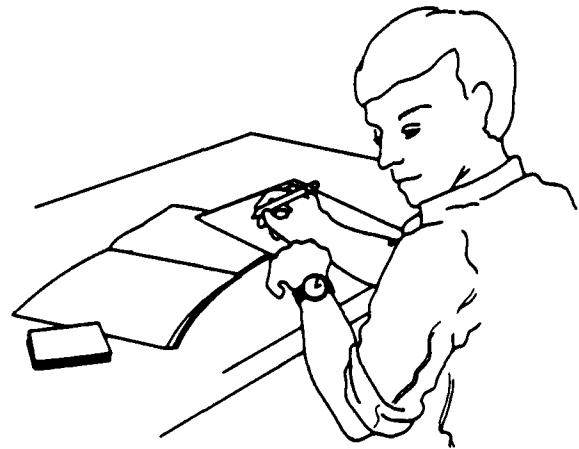
$$\begin{array}{r} 2 \text{ minutes for each question} \\ 30 \text{ questions } \overline{) 60 \text{ minutes}} \end{array}$$

Remember you really have a little less than 2 minutes per question because you have to allow time to check over your answer sheet!

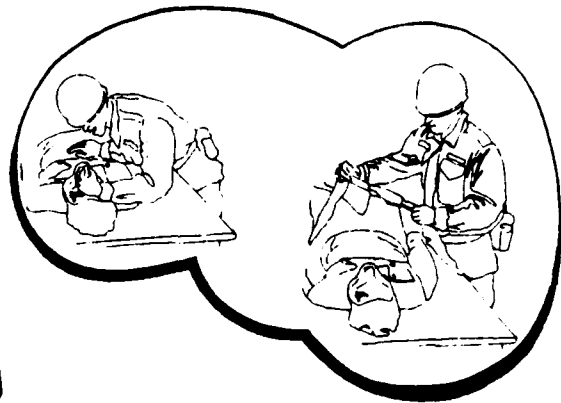
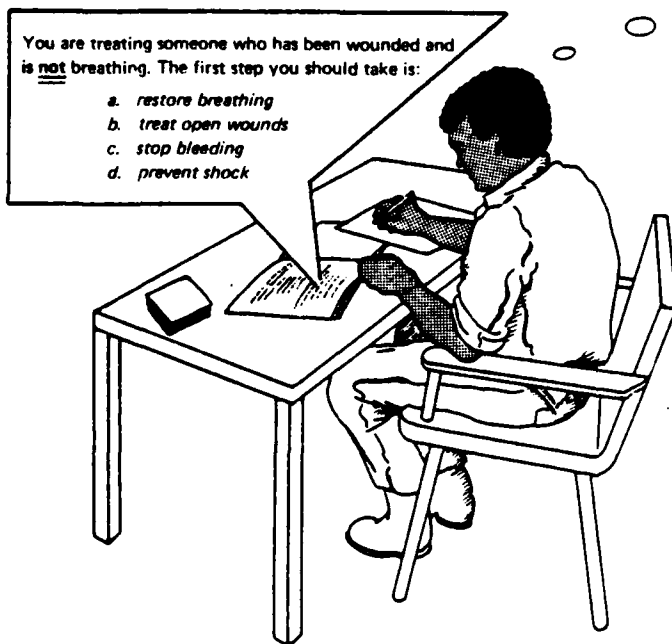
During the Test . . .

"PACE" YOURSELF.

- Make sure to check your time as you go along so that you don't fall too far behind your schedule. Make sure that you try to read and answer every question.



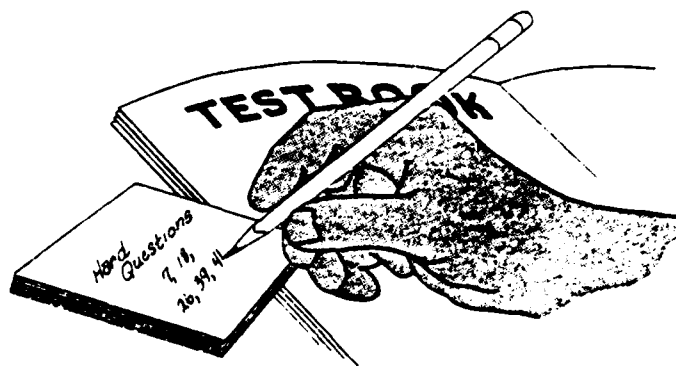
READ THE QUESTIONS CAREFULLY.



- If you don't read carefully, you might think you're doing fine when in fact, you misunderstood the question or skipped over a key word that could change the meaning of the question.
 - For example, if you left out the word "not" when you read the question above, the meaning of the sentence (and your answer) would be very different.

ANSWER THE EASY QUESTIONS FIRST.

- If you have a hard time answering a question, write the number of the question on your scratch paper and come back to it later.
- Don't spend too much time on one question. In each section, first answer the questions you know, then go back and try the others.



READ ALL OF THE ANSWERS, THEN CHOOSE THE BEST ONE.

- Don't pick the first answer that seems right. Some questions have more than one right answer. If you don't read all the choices, you may not see the one that includes all the right answers.
- For some questions, more than one answer may seem to be correct. When this happens, you should choose the best correct answer.

EXAMPLE

What is the most accurate method for determining direction without a compass during daylight?

- A. *Using the north star method*
- B. *Using the watch method*
- C. *Using the shadow tip method*
- D. *Determining a magnetic azimuth*

COMPARE CHOICES.

- A good way to choose the best answer is to compare choices, two at a time. It's easy to compare choices when the question has a key word in it; for example, when it asks for the best or first or most important.

Look at this sample question:

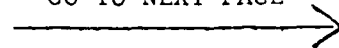
Of the shelters listed below, which is the best in the event of a nuclear blast?

- a. ditch*
- b. wall*
- c. deep foxhole*
- d. deep covered foxhole*

By comparing choices, you can probably narrow the choices down to the one best answer.

For example, if you compare a ditch to a wall, you can see that a ditch is a better choice; compare a ditch to a deep foxhole and the foxhole seems better; finally, compare the deep foxhole with the deep covered foxhole and you can see the last choice (d) is the best answer.

GO TO NEXT PAGE



WHEN YOU'RE NOT SURE -- GUESS!

- Don't hand in an answer sheet with blanks on it. On most tests, including the SQT, if you leave an answer blank, you'll get it wrong anyway. Instead, try to answer it correctly by:

- checking to see if you know which answers are wrong,
- narrowing down the choices, and
- picking the answer you think is right.



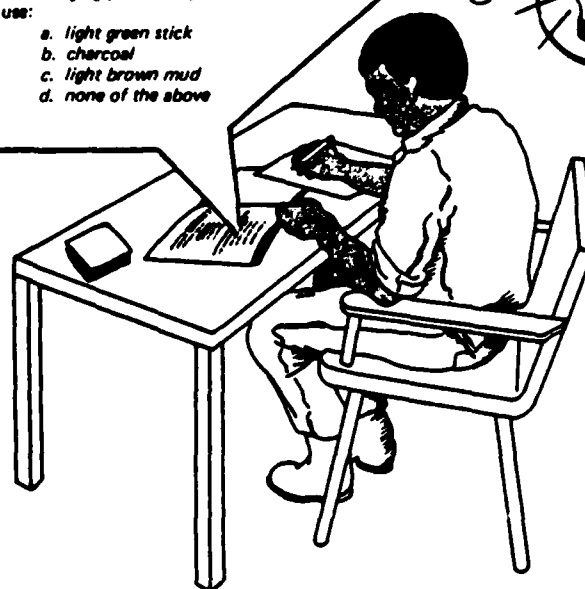
LOOK FOR KEY WORDS.

- Questions that have key words may seem like trick questions, but they're not. Words such as "always" or "never" give you a clue to the best answer. But be careful!

If it says "always" it means "always" -- NO EXCEPTIONS!

When camouflaging your skin you should always use:

- a. light green stick
- b. charcoal
- c. light brown mud
- d. none of the above



Here's a list of some common key words:

ALL	GENERALLY	NECESSARY	RARELY
ALWAYS	LAST	NEVER	SELDOM
BEST	LEAST	NONE	SOMETIMES
EVERY	MANY	NOT	UNLESS
EXCEPT	MAY	OFTEN	USUALLY
FEW	MOST	ONLY	WHENEVER
FIRST	MUST	PERHAPS	WORST

DON'T WORRY ABOUT "PATTERNS" IN YOUR ANSWERS.

- Don't worry about patterns in your test answers, such as four "b's" in a row (or four "True's" or "False's"). You answered one question at a time, so don't change an answer just to break up a pattern.

93	● B C D	116	A B ● C D	139	A ● C D
94	A B C ●	117	● B C D	140	A B ● C D
95	A B C D	118	● B C D	141	A B ● C D
96	A ● C D	119	● B C D	142	A B C ●
97	A ● C D	120	● B C D	143	A B C ●
98	A ● C D	121	● B C D	144	A B C ●
99	A B ● C D	122	A ● C D	145	A B ● C D
100	A B C ●	123	A B ● C D	146	● B C D
101	A B ● C D	124	A B C ●	147	A B C ●

SAMPLE

MARK YOUR ANSWERS IN THE RIGHT SPOT ON YOUR ANSWER SHEET.

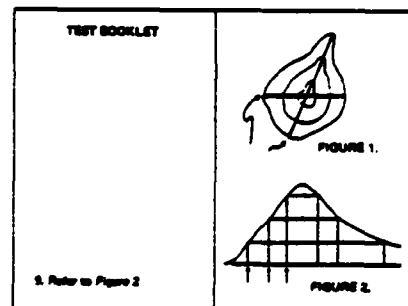
- Check to make sure that you marked your answer in the correct place on the answer sheet and that you filled in only one answer to a question.

1	<input type="radio"/> A <input type="radio"/> B <input type="radio"/> C <input type="radio"/> D	24	<input type="radio"/> A <input type="radio"/> B <input type="radio"/> C <input type="radio"/> D	47	<input type="radio"/> A <input type="radio"/> B <input type="radio"/> C <input type="radio"/> D	70	<input type="radio"/> A <input type="radio"/> B <input type="radio"/> C <input type="radio"/> D
2	<input type="radio"/> A <input type="radio"/> B <input type="radio"/> C <input type="radio"/> D	25	<input type="radio"/> A <input type="radio"/> B <input type="radio"/> C <input type="radio"/> D	48	<input type="radio"/> A <input type="radio"/> B <input type="radio"/> C <input type="radio"/> D	71	<input type="radio"/> A <input type="radio"/> B <input type="radio"/> C <input type="radio"/> D
3	<input type="radio"/> A <input type="radio"/> B <input type="radio"/> C <input type="radio"/> D	26	<input type="radio"/> A <input type="radio"/> B <input type="radio"/> C <input type="radio"/> D	49	<input type="radio"/> A <input type="radio"/> B <input type="radio"/> C <input type="radio"/> D	72	<input type="radio"/> A <input type="radio"/> B <input type="radio"/> C <input type="radio"/> D
4	<input type="radio"/> A <input type="radio"/> B <input type="radio"/> C <input type="radio"/> D	27	<input type="radio"/> A <input type="radio"/> B <input type="radio"/> C <input type="radio"/> D	50	<input type="radio"/> A <input type="radio"/> B <input type="radio"/> C <input type="radio"/> D	73	<input type="radio"/> A <input type="radio"/> B <input type="radio"/> C <input type="radio"/> D
5	<input type="radio"/> A <input type="radio"/> B <input type="radio"/> C <input type="radio"/> D	28	<input type="radio"/> A <input type="radio"/> B <input type="radio"/> C <input type="radio"/> D	51	<input type="radio"/> A <input type="radio"/> B <input type="radio"/> C <input type="radio"/> D	74	<input type="radio"/> A <input type="radio"/> B <input type="radio"/> C <input type="radio"/> D
6	<input type="radio"/> A <input type="radio"/> B <input type="radio"/> C <input type="radio"/> D	29	<input type="radio"/> A <input type="radio"/> B <input type="radio"/> C <input type="radio"/> D	52	<input type="radio"/> A <input type="radio"/> B <input type="radio"/> C <input type="radio"/> D	75	<input type="radio"/> A <input type="radio"/> B <input type="radio"/> C <input type="radio"/> D
7	<input type="radio"/> A <input type="radio"/> B <input type="radio"/> C <input type="radio"/> D	30	<input type="radio"/> A <input type="radio"/> B <input type="radio"/> C <input type="radio"/> D	53	<input type="radio"/> A <input type="radio"/> B <input type="radio"/> C <input type="radio"/> D	76	<input type="radio"/> A <input type="radio"/> B <input type="radio"/> C <input type="radio"/> D

SAMPLE

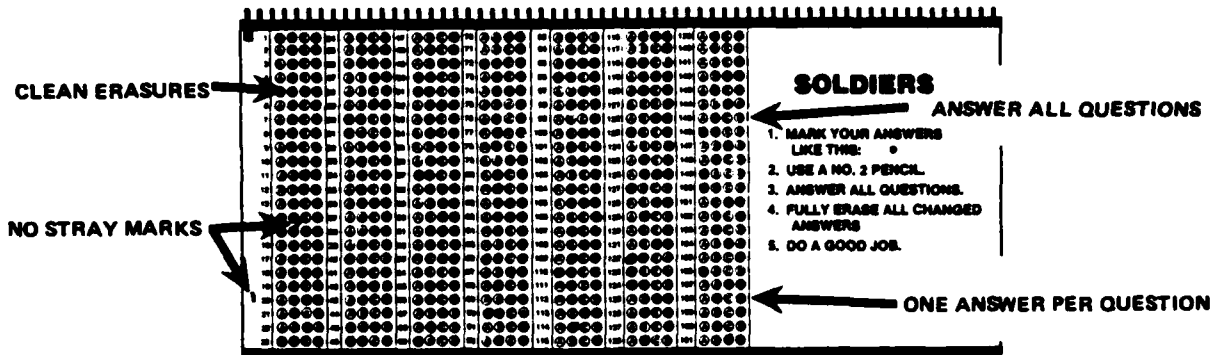
IF THE QUESTION REFERS TO A FIGURE OR A MAP, MAKE SURE YOU ARE LOOKING AT THE RIGHT FIGURE OR MAP.

- If the question tells you to look at Figure 2, for example, make sure you are looking at Figure 2 before answering the question.



After the Test . . .

GO BACK OVER YOUR ANSWER SHEET TO SEE IF YOU'VE DONE EVERYTHING RIGHT.



SAMPLE

- Make sure you've filled in the information correctly at the top (or back) of the test form. Also check to see that you answered all of the questions and that you haven't put down more than one answer to a question.
- Check to make sure that you have fully erased any answers you changed and that there are no "stray" marks on the answer sheet.

The next time you have to take a written test, study hard and try using these tips. You should be able to improve your score. To help you remember the tips, they've been listed on the next page. .
ASK FOR A COPY OF THE LIST OF TIPS IF YOU WOULD LIKE TO TAKE ONE WITH YOU.

TEST-TAKING TIPS
Take-Home Review List

BEFORE THE TEST STARTS . . .

- FIND OUT WHERE TEST IS BEING GIVEN AND GET THERE AHEAD OF TIME.
- BRING PENCILS AND PAPER (AND ANYTHING ELSE YOU WILL NEED).
- LISTEN CAREFULLY TO THE INSTRUCTIONS.
- IF YOU HAVE ANY QUESTIONS, ASK!
- FIGURE OUT ABOUT HOW MUCH TIME YOU HAVE FOR EACH QUESTION.

DURING THE TEST . . .

- "PACE" YOURSELF.
- READ THE QUESTIONS CAREFULLY.
- ANSWER THE EASY QUESTIONS FIRST.
- READ ALL OF THE ANSWERS, THEN CHOOSE THE BEST ONE.
- COMPARE CHOICES.
- WHEN YOU'RE NOT SURE--GUESS!
- LOOK FOR KEY WORDS.
- DON'T WORRY ABOUT "PATTERNS" IN YOUR ANSWERS.
- MARK YOUR ANSWERS IN THE RIGHT SPOT ON YOUR ANSWER SHEET.
- IF THE QUESTION REFERS TO A FIGURE OR A MAP, MAKE SURE YOU ARE LOOKING AT THE RIGHT FIGURE OR MAP.

AFTER THE TEST . . .

- GO BACK OVER YOUR ANSWER SHEET TO SEE IF YOU'VE DONE EVERYTHING RIGHT.

PRACTICE QUESTIONS
FOR
TEST WISENESS

Instructions

In this Section there are 13 questions on test-taking tips. Quiz yourself to see how well you remember the tips. Answers are found on the pages following each set of questions.

Read each question, then circle the letter of the best correct answer. Put a check by any questions you missed and review the correct answers.

QUESTION 1: Which of the following cities is closest to New York City?

- a. Washington, DC
- b. Miami, Florida
- c. Chicago, Illinois
- d. Philadelphia, Pennsylvania

QUESTION 2: The test-taking tip that is the most useful in answering Question 1 is:

- a. Listen carefully to the instructions
- b. Compare choices
- c. "Pace" yourself
- d. Answer the easy questions first.

QUESTION 3: Anyone who picked answer "a" to Question 1 probably:

- a. Doesn't know his geography
- b. Didn't read all the choices
- c. Didn't listen to the instructions
- d. Either a or b.

ANSWER 1: (d) Philadelphia, Pennsylvania.

ANSWER 2: (b) Compare choices.

If you compare choices two at a time, sometimes you can narrow down the answers to the one best answer.

For example, in Question 1, Washington, DC is closer to New York City than Miami is, and it's also closer than Chicago is, but Philadelphia is even closer than Washington is. So "d" is the best answer.

ANSWER 3: (d) Either a or b.

Someone could have chosen "a" (Washington, DC) because he didn't know it's farther away from New York City than Philadelphia is. But, it could also be that he didn't read all the choices and just picked the first city that sounded right. Remember, it's important to read all the choices and pick the best answer.

QUESTION 4: You and three friends go out to dinner. The total bill comes to \$46.99. You add a 15% tip and split the total four ways. What is your share?

- (a) \$13.51
- (b) \$13.49
- (c) \$14.19
- (d) \$11.69

QUESTION 5: Which tip is important in answering Question 4?

- (a) Find out where test is being given and get there ahead of time.
- (b) Look for key words.
- (c) Bring pencils and paper (and anything else you will need).
- (d) Read all of the answers. Then choose the best one.

QUESTION 6: About halfway through a test, you come across a hard question. You realize that it will take a while to figure it out. You should:

- (a) Leave it blank.
- (b) Guess.
- (c) Write the number of the question on your scratch paper and come back to it later.
- (d) Keep working on it.

ANSWER 4: (a) \$13.51.

ANSWER 5: (c) Bring pencils and scratch paper.
It's always a good idea to bring these along, so that you
can work on problems and/or make notes.

ANSWER 6: (c) Write the number of the question on your scratch paper
and come back to it later.
Otherwise, you may forget to go back to it. If you can't
figure it out when you return to it, then take an educated
guess at the right answer.

QUESTION 7: The 19th President of the United States was:

- (a) Abraham Lincoln
- (b) Hubert Humphrey
- (c) George Washington
- (d) Rutherford B. Hayes

QUESTION 8: Which tip is important in answering Question 7?

- (a) When you're not sure--make an educated guess.
- (b) Read the questions carefully.
- (c) Answer the easy questions first.
- (d) Look for key words.

QUESTION 9: Suppose that because you hadn't known the answer to Question 7, you had left it blank. Why wouldn't that have been a good idea?

- (a) Because leaving it blank is as good as getting it wrong.
- (b) Because if you had guessed, you probably would have gotten it right.
- (c) Because leaving it blank is as good as getting it wrong on the SQT.
- (d) Because you get more credit for a wrong answer than for no answer.

ANSWER 7: (d) Rutherford B. Hayes.

ANSWER 8: (a) When you're not sure -- guess!
Even if you have no idea of what the correct answer is,
try to answer it by:

- Checking to see if you know which answers are wrong (for example, you know that Washington was our 1st president and Humphrey never was a president);
- Narrowing down the choices (that leaves Lincoln and Hayes);
- Picking the answer you think is right (Hayes is closer to being the 19th president than Lincoln was).

ANSWER 9: (c) Because leaving it blank is as good as getting it wrong on the SQT.
On some multiple choice tests, you are better off leaving the question blank than answering it (you score no points for not answering, but you lose points if you pick the wrong answer).
On the SQT, you might as well try to answer the question, even if you're not sure you are right. Ask the test monitor before you begin the test whether or not you're better off leaving an answer blank.

QUESTION 10: You have two hours to complete a test which has 40 questions. About how much time should you spend on each question?

- (a) 5 minutes
- (b) 2 minutes
- (c) 3 minutes
- (d) 2-1/3 minutes

QUESTION 11: You are taking a 2-hour test with 40 questions on it. An hour has passed and you are on Question #23. You are:

- (a) Right on schedule.
- (b) A little ahead of schedule.
- (c) Behind schedule.
- (d) Way behind schedule.

QUESTION 12: You have finished a 2-hour test in one hour and 50 minutes. You should:

- (a) Hand in your answer sheet and leave.
- (b) Raise your hand and ask the monitor what to do next.
- (c) Check over your test and answer sheet.
- (d) Put your head down on the desk and rest.

QUESTION 13: When taking a multiple-choice test you should always:

- (a) Answer every question.
- (b) Watch for patterns in your answers.
- (c) Guess if you don't know the answer.
- (d) Read all the choices given for each question.

ANSWER 10: (c) 3 minutes.

Divide two hours (120 minutes) by 40 (the number of questions).

ANSWER 11: (b) A little ahead of schedule.

If one hour has passed in a 2-hour test, you should be halfway done with the test. If you're on question 23, you are 3 questions ahead of schedule.

ANSWER 12: (c) Check over your test and answer sheet.

When you have extra time at the end of your test you should always go back over your test and answer sheet.

ANSWER 13: (d) Read all the choices given for each question.

Answers "a" and "c" would also have been correct if the question had said "when taking an SQT..." But the question said ALWAYS and answers "a" and "c" are not always true. (See page 9 regarding key words.)